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ABSTRACT

The overall purpose of this study is to evaluate the methods by which the Physical Education Committee Pilot Teachers institute the "Conceptual Guide" (Alberta 1974) in teaching secondary school physical education in experimental classes in Alberta schools. The study evaluates the impact of the conceptual guide and discovery approach upon teachers, pupils, and pupils' associates. The subjects of the study are pilot teachers, the pupils in physical education classes, and the "contact group" of selected pupils (i.e., parents, friends, other teachers). Opinions were also solicited from curriculum specialists concerned with the methodology under study. The four major problems examined in detail in this report are: (1) the nature of the learning; (2) the nature of the student-teacher interaction; (3) the attitude of students towards lessons; and (4) opinions and experiences of teachers. The remaining portion of the study examines a support study in relationship to this study, a product development theory and curriculum guide, and recommendations regarding the curriculum guide. The investigators found that conceptual approach lessons are characterized by substantial student cognitive behavior including ability to conceptualize, an indirect and supportive style of interaction by teachers, and positive attitude indications from students. (SK)

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THE CONCEPTUAL APPROACH STUDY IN SECONDARY PHYSICAL EDUCATION IN ALBERTA 1975

FINAL RESEARCH REPORT

Prepared by

Faculty of Physical Education

The University of Calgary

for

U.S. DEPARTMENT OF HEALTH EDUCATION & WELFARE NATIONAL INSTITUTE OF EDUCATION

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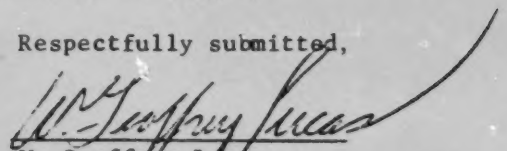
THE TERMS OF REFERENCE

OF THE RESEARCH STUDY

The following report is
presented to The Minister
of Education for Alberta
on behalf of The Governors
of The University of Calgary

Respectfully submitted,



W. Geoffrey Lucas
Principle Investigator

* * * *

The reader is advised to see
the following pages for a
Summary of the findings
2, 33, 47, 71, 135

* * * *

THE CONCEPTUAL APPROACH STUDY IN SECONDARY PHYSICAL EDUCATION IN ALBERTA

(1975)

FINAL RESEARCH REPORT

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FINAL RESEARCH REPORT

August, 1975

This research was conducted under a research agreement between The Minister of Education for Alberta and The Governors of The University of Calgary Schedule A and Schedule B, January, 1975.

TABLE OF CONTENTS

Page(s)

Terms of Reference of the Research Study.....i, ii.

Sample Groups Selected..... 1

Problem (1): The Nature of the Learning
The Nature of the Teaching Behavior..... 2
Methodology (1)..... 3
Part A - Problem (1) Results..... 4-19
Part B - Florida Taxonomy of Cognitive Behavior
Categories and Examples..... 20-32

Problem (2): The Nature of the Interaction..... 33
Part A - Problem, Methods, Results..... 34-45

Problem (3): The Attitude of Students Towards Lessons..... 46
Part A - Summary of Student Attitudes (Class Sample)..... 47-50
Details..... 51-70
Part B - Summary of Attitudes of Interview Sample..... 71-73
Details..... 74-95
Part C - Student Attitude of End of Unit Sample..... 96-101
Part D - Incidental Evidence Reported by Parents and
Student Associates.....102-105

Problem and Methodology (4): Opinions and Experiences of Teachers.....106
Part A - Teacher Attitude and Opinion to Conceptual
Approach Lessons.....107-131

A Support Study.....132

Product Development Theory and the Curriculum Guide.....133-134

Recommendations Regarding the Curriculum Guide.....135

APPENDICES:

		Page
1.	Names and Addresses of Study Participants	138-139
2.	Florida Taxonomy of Cognitive Behavior	140-141
3.	Standard Deviations for Cognitive Taxonomy Scores in the Present Study	142

* * * *

Schedule "A"

This is Schedule A to an Agreement dated the 20th day of January, 1975, between the Minister, and The University of Calgary and shall be considered as an integral part of the Agreement.

TERMS OF REFERENCE OF RESEARCH STUDY

The overall purpose of the Conceptual Guide-Discovery Approach Study is to completely evaluate the methods by which Physical Education Committee Pilot Teachers Institute the Conceptual Guide (Alberta 1974) in teaching secondary school physical education, in experimental classes in Alberta schools. The Study will ascertain and evaluate the impact of the conceptual-guide and discovery approach upon teachers, pupils, and pupils associates.

The subjects of the study are the pilot teachers, the pupils in the physical education classes, the "contact group" of selected pupils (i.e. parents, friends, other teachers). Opinions will also be solicited from curriculum specialists concerned with the methodology under study.

The period of the study extends from October 15, 1974 to August 31, 1975.

The initial progress report is to be filed in conjunction with the January Workship, at which time the plans for evaluation are to be shared with the pilot teachers. Other progress reports are to be filed in April and June. The final report is to be filed at the end of August.

Pupil attitudes to conceptual method pilot lessons are to be tabulated in a descriptive summary.

Critical incidents participated in by pupils will be used to indicate the attitudes of pupils to conceptualizing about physical education and sports.

The Study is also to ascertain students behavior (N=45) in variables which determine pupils ability to conceptualize; teacher's verbal behavior while teaching classes and the stress they put on higher level thought or intellectual skills and abilities; and pupil-teacher interaction in conceptual pilot lessons.

All measurements are to be completed in field settings. There is to be no pre assessment of the experimental group, or no official control group study.

TIMETABLE

Proposal phase of the study	-	October 15, 1974
Workshop #1	-	January 22, 1975
Progress reports #1	-	January, 1975
Progress reports #2, &#3	-	April, June, 1975
Final Workshop	-	
Final Report	-	August, 1975
Duration of the study	-	October 15, 1974 to August 31, 1975

and shall be completed in its entirety including the submission of the final report by August 31, 1975

Sample Groups Selected for the
Conceptual Approach Study in Secondary
Physical Education
(Alberta - 1975)

Sample N	Category	Focus or subproblem of the study
50	Gr. 6 - P.E. 30 students	Conceptual learning occurring amongst students (The Cognitive Domain) (The Psychomotor Domain)
8	Teachers	Conceptual teachers' behavior (The Cognitive Domain)
8/400	Teachers /students	Teacher-student interaction (Affective and Activity Domains)
400	Students	Attitude of students to conceptual approach lessons (Affective Domain)
25	Parents	Parental opinion of attitude of student
22	Lessons	Conceptual Nature; Interaction Occurring

Problem: (1)

Focus 1: What is the nature of the learning occurring in students taught by conceptual approach teaching in physical education?

Focus 2: What is the nature of the Teaching Behavior of Conceptual Approach Pilot Teachers?

Sample Size:

Number of Lessons	= 21
Teachers	= 8
Students	= 400

Results Summary:

Focus 1: The present study found that the learning occurring in Conceptual Approach physical education lessons taught in Alberta in 1975 was displayed in behaviors in all of the sub-domains of the taxonomy of cognitive behaviors except synthesis or creativity. Students exhibited behaviors in intellectual processes labelled: knowledge of specifics, translation, interpretation, application and analysis. Conceptual approach students can conceptualize and make applications of concepts under study to their own sports skills; skills of classmates and exhibit transferability of concepts to other sports in which they participate.

Focus 2: The present study found that teachers utilizing the conceptual approach in teaching physical education exhibit behaviors in intellectual processes labelled the sub-domain of knowledge, translation, interpretation, application and analysis. Recordable scores in sample lessons were also found for teachers in synthesis or creativity and evaluation, or the higher levels of the taxonomy of cognitive behavior.

Major Conclusion:

The teaching strategies involved in conceptual approach physical education lessons in Alberta experimental lessons in 1975, appears to have resulted in student learning in which learners can acquire knowledge, are able to comprehend ideas and concepts and are able to deal with it through applications to sports and psychomotor skills.

FOR COMPLETE RESULTS SEE PAGES 5 - 33.

Methodology: (1)

During each class taught by the pilot teacher during the two day visitation period a two camera videotape was recorded of the teacher and of two randomly selected students. The audio portion is recorded via a COMREX wireless microphone and portable transmission unit. Both teacher talk and student talk which is audible to the teacher is recorded clearly by this method.

The recordings are used later by raters trained for FTCB categories. A time sample of the pilot classes is categorized and analyzed to determine the cognitive behavior of the teacher and students in class.

Further evidence of a descriptive nature is obtained by interviewing two randomly selected students from each class observed. Students are shown a VTR of themselves during the class and are asked to watch themselves and describe to the interviewer the following:

1. Understanding of the concepts being taught.
2. Application of the concepts to their practice.
3. Analysis of the skills of others in class.
4. Transferability of their understanding of the concepts to other activity or sport situations.

See Pages 16-20

Student talk is also to be used to assist development of the model teacher/lesson videotapes of the study. (See Department of Education (Alberta) List of Resources)

CONCEPTUAL APPROACH STUDY IN SECONDARY PHYSICAL EDUCATION IN ALBERTA

PART A

(A) Nature and extent of Cognitive Behavior exhibited by Students taught through the Conceptual Approach

(B) Nature and extent of Cognitive Behavior exhibited by Conceptual Approach Pilot Teachers

Method Utilized:

The Florida Taxonomy of Cognitive Behavior (FTCB) was selected due to its general acceptance in the field of education and the highly acceptable Scott's reliability coefficients that trained raters are capable of attaining.

The FTCB is usable for any subject matter, the subject of the observation is the teacher and the pupil and it has been used for research, training, and evaluation. The category dimension is cognitive, which is the primary interest of the present study. Because of the unique nature of the subject matter physical education the FTCB terms graphic representation and new or practical situation have been expanded to include teacher demonstration and student practice respectively.

During each class taught by the Conceptual Approach pilot teachers during the two day visitation period a two camera videotape was recorded of the teacher and of two randomly selected students. The audio portion was recorded via a COMREX wireless microphone and portable transmission unit. Both teacher talk and student talk which is audible to the teacher is recorded clearly by this method.

The recordings were later used by raters trained for FTCB categories. A time sample of the pilot classes was categorized and analyzed to determine the cognitive behavior of the teacher and students in class.

Further evidence of a descriptive nature was obtained by interviewing two randomly selected students from each class observed. Students were shown a VTR of themselves during the class and asked to watch themselves and describe to the interviewer the following:

1. Understanding of the concepts being taught.
2. Application of the concepts to their practice.
3. Analysis of the skills of others in class.
4. Transferability of their understanding of the concepts to other activity or sport situations.

Student talk is also to be used to assist development of the model teacher/lesson videotapes of the study.

Ability of Trained Raters:

The Scott's Coefficient of Reliability calculated for the three raters hired to perform the ratings for this study was 0.84.

RESULTS

A system for the analysis of intellectual processes was made available by utilizing the Florida Taxonomy of Cognitive Behavior. The theory represented by the Taxonomy postulates that the learner must acquire knowledge (levels 1.11 - 1.13); be able to comprehend it (levels 1.2 - 1.3) before he can deal with it in some manner (upper levels (1.4 - 1.7).

Taxonomy of Cognitive Behavior

Sub-Domains

1.11 Knowledge of Specifics
1.12 Knowledge of Ways and Means of dealing with Specifics
1.13 Knowledge of Universals and Abstractions (including students ability to conceptualize*)
1.2 Translation
1.3 Interpretation
1.4 Application
1.5 Analysis
1.6 Synthesis (creativity)

---

*See Page 16 - Students ability to conceptualize including
i. Understanding of concepts being taught
ii. Application of concepts to self
iii. Application of concepts to others in class
iv. Transferability of concept to other situations

By using the Florida Taxonomy it may be discovered if the acquisition of information is the central concern of students and teachers or if their cognitive behaviors go beyond memorization and recall of facts and information. As Bloom [1] stated in his early writings, "what is needed is some evidence that the students can do something with their knowledge, that is, that they can apply the information to new situations and problems."

In this study twenty-one conceptual approach lessons were analyzed. The results are displayed in Table 1 and Table 2. The mean cognitive taxonomy score for conceptual students is 26.36 and the mean conceptual taxonomy score for teachers is 47.5. In interpreting Florida Taxonomy of Cognitive Behavior scores, it should be noted that this system indicates the kinds of intellectual behavior for students and teachers and to a limited extent the frequency with which these behaviors occur.

---

1. B.S. Bloom et al, Taxonomy of Educational Objectives, Handbook 1: Cognitive Domain (N.Y., David McKay Company, 1956) p.38.

DETAILED RESULTS

(A) Nature and Extent of Cognitive Behavior Exhibited by Students Taught Through the Conceptual Approach

(B) Nature and Extent of Cognitive Behavior Exhibited by Conceptual Approach Pilot Teachers

1. Knowledges

Table 2 indicates that conceptual approach teachers in this study were involved in knowledge of specifics, knowledge of ways and means of dealing with specifics and knowledge of universals and abstractions. However, students were involved in knowledge of specifics and knowledge of universals and abstractions, but largely uninvolved in knowledge of ways and means of dealing with specifics. Examples of knowledges of universals abstractions are: states generalized concept or idea; states, tells, or recalls principles, laws, theories, organization or structure.

TABLE 1

TEACHER AND STUDENT SCORES FOR THE TAXONOMY OF COGNITIVE BEHAVIOR: A SYSTEM FOR THE ANALYSIS OF INTELLECTUAL PROCESSES.

FOR CONCEPTUAL APPROACH EXPERIMENTAL LESSONS IN SECONDARY PHYSICAL EDUCATION IN ALBERTA (1975)

CONCEPTUAL APPROACH LESSONS	TEACHER MEANS FOR COGNITIVE TAXONOMY	STUDENTS MEANS FOR COGNITIVE TAXONOMY	COMBINED MEAN FOR EXPERIMENTAL LESSONS
LESSON 1	40 6	23 6	64 2
2	49 6	29 0	78 6
3	46 0	18 6	64 6
4	48 6	10 6	59.2
5	42 6	19 3	71.9
6	50 3	37 6	87.9
7	46 6	37 0	83 6
8	51 0	42 3	93 3
9	45 6	33 0	78 6
10	42 3	30 0	72 3
11	45 6	24 3	69 9
12	43 3	16 6	59.9
13	45 6	20 3	65.9
14	48 6	19 0	67 6
15	50 0	17 0	67.0
16	41 6	24 1	65.7
17	51 0	20.67	71.7
18	50 6	11 0	61.6
19	51 6	21 6	73.2
20	55 6	31.0	86 6
21	51 0	25 0	76.0
GROUP MEAN FOR EXPERIMENTAL T S N = 21 LESSONS	47 5	26.36	73 86
GROUP MEAN FOR CONTROL T S N = 18 LESSONS	44 11*	13 19*	57 3*
t test* for significance of difference	2 475*	4 753*	

*SUPPORT STUDY CALCULATIONS NOT PART OF OFFICIAL STUDY. DIFFERENCES ARE BEYOND LEVEL REQUIRED FOR SIGNIFICANCE. (TEACHER .05 LEVEL; STUDENT + COMBINED .001 LEVEL)

NOTE: Standard deviations are included in the appendix.

An unofficial section of this study analyzed a control group of classes in secondary physical education and as shown in Table 2 the experimental group was significantly more involved (level = .001) than was the control group in knowledge of universals and abstractions.

Summary of Knowledge Sub Domain

The results discussed above and the results displayed in Table 2 indicate that teachers are involved in the three knowledge sub domains of the Florida Taxonomy. Students appear to be involved primarily with knowledge of specifics, to be less involved with knowledges of universals and abstractions, and to be uninvolved with knowledges of ways and means of dealing with specifics. It should be noted, however, that conceptual approach students were significantly more involved than control group students in knowledge of specifics and knowledge of universals and abstractions.

Comphrension of Knowledge or Ability to Translate and Interpret

This study attempted to determine the extent to which conceptual approach pilot teachers translate and interpret ideas or knowledges. Translation is dependent upon possession of relevant knowledge. The task is to convert communication into known terms; it requires the understanding of the literal message in communication. The present study found that conceptual approach teachers and students were involved in the intellectual processes labelled interpretation (e.g. gives reason, shows similarities, differences, shows cause and effect relationship, summarizes or concludes from observation of evidence, gives analogy, performs a directed task or process) and it was found that teachers were involved in translation, although students were involved to a lesser extent in translation (restates in own words or briefer terms, gives a concrete example of an abstract idea, verbalizes from a graphic representation (note: for the purposes of this study, the teacher utilizes a blackboard, V.T.R. unit, diagram or written materials, etc. to show an example), translation of verbalization into graphic form (note: for the purposes of this study, the teacher utilizes a demonstration performed by himself or a student during the teaching process).

TABLE 2

TEACHER AND STUDENT SCORES FOR THE TAXONOMY OF COGNITIVE BEHAVIOR (SUB-DOMAINS): A SYSTEM FOR THE ANALYSIS OF INTELLECTUAL PROCESSES. FOR CONCEPTUAL APPROACH EXPERIMENTAL LESSONS IN SECONDARY PHYSICAL EDUCATION IN ALBERTA (1975)

KINDS OF INTELLECTUAL BEHAVIOR OCCURRING

CONCEPTUAL APPROACH LESSONS	KNOWLEDGE SUB DOMAIN																	
	OF SPECIFICS		OF WAYS AND MEANS OF DEALING WITH SPECIFICS		OF UNIVERSALS AND ABSTRACTIONS		TRANSLATION		INTERPRETATION		APPLICATION		ANALYSIS		SYNTHESIS (CREATIVITY)		EVALUATION	
	T	S	T	S	T	S	T	S	T	S	T	S	T	S	T	S	T	S
LESSON 1	10	90	106	06	96	36	143	36	126	110	60	66	116	73	1		33	16
2	106	96	153	10	100	36	15	6	173	170	60	70	190	133	16		36	0
3	12	83	113	16	100	33	130	36	170	80	50	60	176	60	20		40	66
4	113	13	103	16	133	066	163	03	150	86	100	73	180	13	20		10	0
5	116	90	103	20	176	43	15	36	126	96	60	50	116	46	0		16	0
6	10	10	86	03	146	86	14	5	183	203	73	90	266	200	03		40	10
7	106	93	106	30	110	43	13	86	190	300	73	96	173	183	03		36	06
8	106	100	100	53	156	83	136	96	176	330	53	53	243	230	03		40	0
9	130	100	153	63	90	66	153	83	140	140	46	80	190	86	30		10	0
10	106	6	83	0	110	23	136	33	146	123	50	53	163	83	0		40	0
11	10	10	120	7	100	23	103	36	133	80	60	90	180	73	0		36	0
12	11	86	146	066	93	13	146	33	123	86	46	50	160	46	0		30	0
13	10	7	140	30	100	10	106	33	173	116	50	50	186	73	0		30	0
14	13	83	110	00	106	13	133	23	186	136	80	76	190	50	0		46	03
15	116	53	143	20	100	26	113	33	210	86	80	60	196	43	0		40	0
16	10	66	106	03	96	26	14	30	163	160	50	50	156	130	0		16	16
17	103	90	14	13	103	36	146	46	230	116	50	63	190	56	20		46	03
18	10	33	133	00	100	0	136	03	213	90	50	53	190	36	43		43	0
19	10	83	166	80	100	23	126	0	213	90	53	70	183	30	20		50	0
20	12	11	133	23	110	43	153	26	250	186	76	86	210	116	03		50	30
21	113	113	156	60	96	33	116	43	213	130	83	130	133	36	83		36	0
EXPERIMENTAL GROUP MEAN FOR SUB DOMAIN	1091	81	1261	262	1133	341	1357	423	1756	1388	622	696	180	855	13	—	345	043
CONTROL GROUP** MEAN FOR SUB DOMAIN	886	533	1322	321	935	104	108	129	1504	718	525	551	175	139	NO OBSERVED SCORES		370	029
t score for significance of difference (t required for significance at 0.001 level = *2.71)	228	277*	059	019	147	403*	644*	403*	031	383*	208	268	05	489*	274*	—	06	109

NO OBSERVED SCORES

** SUPPORT STUDY SCORES

In interpretation an individual not only identifies and comprehends ideas, as in translation, but also understands their relationships. It goes beyond repetition and rephrasing the parts of a communication to determine the larger and more general ideas contained in it. Conceptual approach teachers strive to develop this ability in their students and the results of this study indicate that conceptual approach students frequently exhibit this cognitive behavior. They also participate in interpretation twice as often as control group students (beyond .001 level).

Conceptual approach teachers in Alberta analyzed in this study were significantly more involved in translation kinds of intellectual behavior in their lessons than were control group teachers although control teachers exhibited this kind of intellectual behavior as well (see Table 2). Perhaps more important was the occurrence of significantly greater involvement of conceptual students in intellectual processes labelled translation and interpretation. It appears that this study has found firm evidence pointing out that students are able to comprehend knowledge, as well as acquire knowledge in their physical education classes. Thus, the Florida Taxonomy has allowed this study to discover that the acquisition of knowledge is not the only or central focus of teachers and students involved in physical education lessons. They are engaged in cognitive behaviors which go beyond the memorization and recall of facts and information and into the higher levels of the cognitive hierarchy such as application, analysis, synthesis and evaluation.

Dealing with Information or Application, Analysis, Synthesis (Creativity) and Evaluation

To what extent can conceptual approach physical education students deal with information or knowledges which they are capable of acquiring and comprehending? As physical education students participate in diverse forms of movement in diverse situations and conditions is it possible that they can apply the information to new situations and problems as they move? To what extent did the conceptual approach teachers in this study exhibit the usage of higher intellectual processes?

Application or the ability to apply previous learning to new situations; apply principles to new situations; apply abstract knowledge to a practicial situation; or identify, select and carry out the process was moderately exhibited by conceptual teachers and students. The mean scores were in the range $\bar{x} = 6.0 - 7.0$ for both teachers and students indicating involvement with application. The conceptual approach means were slightly higher but virtually similar to a control group of scores for this study. Application as distinguished from comprehension, involves transfer of training. It is based upon the individual's being able to apply previous learning to a new situation without having been shown how to use it. Later on in this final report additional evidence is presented regarding conceptual students' abilities in applying learning to new situations.

Analysis describes cognitive behavior in which there is an emphasis on the breakdown of material into its parts in order to detect the relationships of the parts and the way they are organized. Conceptual approach teachers and students were highly involved with this behavior (see Table 2). Teachers exhibited twice the frequency of occurrences as did conceptual students. The most interesting finding, aside from the high involvement with analysis itself, was that control group teachers exhibited similar high frequencies for analysis but that control students and conceptual students differed greatly. Conceptual students were involved with analysis and control students were not involved (significant at .001). This appears to suggest strongly that conceptual students have opportunity to participate in cognitive - movement situations such as distinguishing fact from opinion and fact; distinguishing conclusions from statements which support it; points out an unstated assumption; shows relationship of elements; distinguishes relevant from irrelevant statement; and detects error in thinking.

The intellectual behavior labelled synthesis (creativity) was not evidenced at all by conceptual approach students and virtually not at all by conceptual teachers (barely a recordable mean score of 1.3 occurrences per lesson for teachers was found). A group of control teachers and students used as a support phase of this study resulted in few observed scores for synthesis (creativity). The only examples of recordable synthesis found in this study were limited to the category reorganizes ideas, materials, processes (e.g. a team developed their own plays for a basketball game; a team solves a problem in their defense by rearranging their defensive alignment) and the category produces a plan or proposed set of operations (e.g. a teacher develops a drill to fit a situation to get across certain facts, concepts, or generalizations). Intellectual behaviors not found in this study for synthesis included produces a unique communication or divergent idea; designs an apparatus; designs a scheme for classifying information; formulates an intelligent guess; or draws an inductive generalization from specifics.

The final category of the taxonomy is evaluation. In this study this item describes evaluation of ideas, materials or processes for which specific evidence is presented as criteria for judgement of worth or value which can be observed but not necessarily verbalized. Conceptual approach teachers were involved modestly in evaluation ($\bar{x}$ = 3.45 occurrences/lesson) although conceptual students were not. There were no substantial differences found between conceptual lessons and control group lessons for evaluation.

SUMMARY

Nature of Cognitive Behavior of Conceptual Approach Teachers and Students

Teachers

Conceptual approach teachers were involved in the following cognitive behaviors according to this study:

(1) Knowledge of specifics; knowledge of ways and means of dealing with specifics; and knowledge of universals and abstractions.

(2) Translation

(3) Interpretation

(4) Analysis

Conceptual teachers were not involved (or modestly involved) in:

(1) Application

(2) Synthesis (creativity)

(3) Evaluation

Conceptual approach teachers were generally more involved or significantly more involved in cognitive behaviors beyond the knowledge kinds of behavior than were a group of control teachers as follows:

Generally more involved:

(1) Translation

(2) Interpretation

(3) Application

(4) Analysis

(5) Synthesis (creativity)

Significantly more involved (.001 level)

(1) Translation

(2) Synthesis (creativity)

Students

Conceptual approach students were involved in the following cognitive behaviors according to this study:

(1) Knowledge of specifics; knowledge of universals and abstractions

(2) Translation

(3) Interpretation

(4) Application

(5) Analysis

Conceptual approach students were generally not involved (or modestly involved) in:

(1) Knowledge of ways and means of dealing with specifics

(2) Synthesis (creativity)

(3) Evaluation

Conceptual approach students were significantly more involved (beyond .001 level) in cognitive behaviors than were a group of control students as follows:

(1) Knowledge of specifics; knowledge of universals and abstractions

(2) Translation

(3) Interpretation

(4) Analysis

(Note: For these five categories control group students were involved in knowledge of specifics and interpretation but were virtually uninvolved in knowledge of universals and abstractions; translation; and analysis)

* * * * * * * * *

CONCEPTUAL APPROACH STUDY

IN SECONDARY PHYSICAL

EDUCATION IN ALBERTA

PART A CONT'D.

STUDENT CONCEPTUAL ABILITY

i. Knowledge of the concept under study.
ii. Application of the concepts under study to student's own activity skills.
iii. Application of the concepts under study to a classmate's skill.
iv. Application of the concepts under study to other sports and activities (i.e. transferability)

METHOD

For the study of student conceptual ability an additional source of information was utilized.

The original analysis referred to in the preceding section of Part I used the Florida Taxonomy of Cognitive Behavior which indicated that students in conceptual approach lessons exhibit behavior in several categories of the cognitive domain, including the ability to state a generalized concept or idea.

In an attempt to determine if students can utilize their understanding of concepts while participating in sports and activities situations the following additional analysis was carried out.

A special * sample (N = 50) of randomly selected students was videotaped as they participated in class without prior knowledge that a recording was being made of them as individuals. The tape was then shown to the students and at that time questions were asked about Topics I - IV outlined above. Two students per class were videotaped.

*The special samples were labelled as such to distinguish them as a part of the larger sample (N = 400) who participated in conceptual approach lessons. The special sample viewed video tapes of their skills immediately after their lessons, and were interviewed at that time. As it turned out the special sample included a wide range of motor abilities, sex, body size, age and grade (6-12) and sport interest.

Students answered verbally and were encouraged to utilize their bodies to demonstrate their answers where necessary. A representative selection of answers and percentages for successful applications (ii, iii, & iv) is tabulated below. The student responses were judged by the investigator and examples are included to illustrate the criterion used.

TABLE

STUDENT CONCEPTUAL ABILITY

IN RELATION TO MOTOR SKILLS

OF SELF, CLASSMATES, AND TO OTHER

SPORTS OR ACTIVITIES
(Expressed as Percentage)

i. Percentage of Sample Able to Explain the Concepts Under Study	ii. Percentage of Students Able to Relate the Concepts to Their Own Skill	iii. Percentage of Students Able to Relate the Concepts to a Classmate's Skills	iv. Percentage of Students Able to Relate the Concepts to Other Sports or Activities (i.e. transferability)
87%	87%*	77%	87%

*21% of this group could not do the skill to their own satisfaction, although they knew exactly where the fault lay.

ii. Relating the Concepts to Their Own Skills:

(1) Student knew the concept of base of support and projection relationship and analyzed self as lacking basic balance position which led to control problems on the volley.

(2) Student experimented with applying concept he understood to a running one handed pass in basketball. Explained and demonstrated self on VTR concluding there was no transfer and only way was to "huck it" (which wasn't very acceptable as an effective pass).

(3) This student knew the concept and the analysis applied the concept accurately and with appropriatness; however, she was not able to do the motor task (volleying) to her own satisfaction since she saw herself volleying time after time with full leg extension prior to contacting the ball.

(4) Able to relate to own skill -- I have a short lever because I have some elbow bend....I create body rotation by stepping ahead....and rotate body better.

(5) I face sideways because otherwise I can't get shoulder back as far and arm can go further back increasing speed and distance.

(6) Jim - in grade 8 - changes hands with a badminton racquet i.e. "you don't have to move back as much -- just stay in position -- if it goes over there (to backhand side) you just have to switch hands, if I didn't I'd have to move back.

iii. Applying Concepts to Classmates Skills: (i.e. transferability)

(1) "The upward motion from bent knees applies to both volleyball and basketball for me."

(2) "The creation of force on passes of various types -- in baseball force development would apply especially e.g. a shortstop would use a lot of various passes requiring accuracy."

(3) In applying this same idea to punting in football he said move your foot back further before you punt -- use your hip and knee and straighten the knee to get the longer lever.

(4) "If you're smart in one sport you can apply it to others -- in baseball I throw sidearm once in awhile to get more force into the ball."

(5) "I use it in hockey for shooting and puck-handling. I just grip short for more control -- to get speed I go the other way in the grip."

CONCEPTUAL APPROACH STUDY IN PHYSICAL EDUCATION

IN ALBERTA

FLORIDA TAXONOMY OF COGNITIVE BEHAVIOR

PART B

General Results from the Florida Taxonomy of Cognitive Behavior

Average number of occurrences for 21 conceptual lessons:

	Teacher	Student
$\bar{x}$ =	47.51	26.36
S.D. =	3.97	8.48

****

1.10 Knowledge of Specifics

Average number of occurrences per conceptual lesson:
Teacher = 10.91 Student = 8.15

Standard Deviation: Teacher = .96 Student = 2.50
(re Category 1.10)

Subcategories of Category 1.10

1.11 Reads - not applicable
1.12 Spells - not applicable
1.13 Identifies something by name

Conceptual Approach Examples
"That is a basketball court"
"Dribbling is a skill in basketball"
"A soccer game is played on a field called a pitch"

1.14 Defines a meaning of a term
"The w formation in volleyball is a defensive alignment of the players who are receiving the serve."
"Running is a fast way to get from one place to another."
"Setting is a volleyball skill used to set up the offensive attack."

1.15 Gives a specific fact
"In spiking the badminton bird you have to hit it down towards the ground."
"The jump shot is the toughest shot to master."
"In cane wrestling you take the cane away from your opponent."

1.16 Tells about an event
"In the Dinosaur basketball game, the player at the foul line missed his shot which would have won the game."
"The score in yesterday's game was 14-12 for Schultz's team."
"The Montreal Canadians defeated the Buffalo Sabres 5-4 in overtime.

This level, Knowledge of Specifics, represents symbols and information which often have some concrete referents and are usually at a low level of abstraction. They can be isolated as units which have some meaning and value by themselves.

****

1.20 Knowledge of Ways and Means of Dealing with Specifics

Average number of occurrences per conceptual lesson:
Teacher= 12.61 Student = 2.61

Standard Deviation: Teacher= 2.63 Student = 5.13
(re Category 1.70)

Subcategories of Category 1.20

1.21 Recognizes symbol (Note: for the purposes of this study this item describes behavior in physical education classes which is concerned with arbitrary conventions which have been developed and used in this field of Knowledge).

Conceptual Approach Study Examples:

The players stop the action in the game when the referee blows his whistle.
The teacher signals his class by means of a whistle or gesture.
The signals the referee uses to signify various offenses committed in the basketball game.

1.22 Cites a rule.
"In basketball, travelling occurs when you lift your pivot foot without bouncing the ball."
"Remember in soccer you cannot touch the ball with your hands."
"In badminton you must hit the bird before it touches the ground."

1.23 Gives chronological sequence.
Soccer has been played in Britain since the Nineteenth Century, and it has been played seriously in Canada for the last ten years.
"When John passes to you, you should decide to shoot, or else pass it back to John."

1.24 Gives steps of a process, describes method.
The teacher explains the processes involved in shooting a basketball.
The teacher gives the steps of kicking a soccer ball with the instep of the foot.

1.25 Cites trend (Note: in citing a trend, general patterns rather than specific facts are emphasized.)

"Over the past two years, the popularity of cycling has increased tremendously."
"You tend to bend your elbows when you bump the ball."
"Boys like team games while girls like individualized activities."

* 1.26 Names classification system or standard. (Note*: For the purposes of this study, a system or standard.)
"The offensive or defensive systems in basketball or volleyball."
"Types of shots in basketball or hockey."

1.27 Names what fits given system or standard.
"The slapshot is a powerful hockey shot."
"A screen is part of the offensive system in basketball."

The second category at the knowledge level of the taxonomy requires knowledge about the manner in which specific information is handled - the ways of organizing, working, and evaluating ideas and phenomena which form the connecting links between specifics. It does not require the learner to deal actually with the specifics himself, but rather to know of their existence and possible use. Thus, he may be expected to state a previously encountered principle or generalization, but not to develop one. The items which belong to this category refer to processes rather than products of processes; they usually represent higher abstractions than the items of the preceding category.

****

1.30 Knowledge of Universals and Abstractions

Average number of occurrences per conceptual lesson:
Teacher = 11.05 Student = 3.41

Standard Deviation: Teacher = 2.27 Student = 2.62
(re category 1.30)

Subcategories of Category 1.30

1.31 States a generalized concept or idea.
Conceptual Approach Study Examples:
"The basic strategy in hockey is to play the man not the puck."
"Man to man defense in basketball involves staying between your man and the basket."
"To increase the distance that the bird travels (in badminton) you increase force and height."

1.32 States a principle, law or theory.
"The application of force by the swimmer's arms and legs against the water in the opposite direction to which he is travelling is a basic principle of swimming."
"A smooth, compact swing in baseball refers to the law that states an uneven application of force results in uneven velocity requiring the expenditure of an excessive amount of energy to overcome inertia."

1.33 Tells about an organization or structure.

The teacher explains the organization of the volleyball unit to the students.
The teacher describes how the heart pumps blood throughout the circulatory system during exercise.

This level deals with the highest level of abstractions at the memory level. In order to evidence this behavior the individual must know major generalizations, their interrelations, and patterns into which information can be organized and structured. These items reflect the major concepts which comprise the framework of a discipline or major area of knowledge.

****

2.00 Translation

Average number of occurrences per conceptual lesson:
Teacher = 13.57 Student = 4.23

Standard Deviation: Teacher = 1.59 Student = 2.25
(re Category 2.00)

Subcategories of Category 2.00

2.10 Restates in own words or briefer terms.
Conceptual Approach Study Examples:
"Therefore, a pivot is a turning manoeuvre to avoid being checked."
"The rules of basketball are supposed to protect a person from physical contact."

Student response after teacher. "You mean you hold your hands like this when you bump the volleyball."

2.20 Gives a concrete example of an abstract idea. (Note: for the purposes of this study, the teacher gives a verbal description or explanation of an abstract idea.)

"In checking your opponent, you try to force him out of the path he wishes to take. This is the purpose of defense."
"By consistently returning spikes (in volleyball) you will demoralize your opponents."

2.30 Verbalizes from a graphic presentation (Note: for the purposes of this study, the teacher utilizes a blackboard, V.T.R. unit, diagram on written materials, etc. to show an example.)

The teacher shows an example of a basketball play on a chalkboard.
The teacher uses a film loop to describe the badminton serve.

2.40 Translation of verbalization into graphic form. (Note: for the purposes of the study, the teacher utilizes a demonstration performed by himself or a student during the teaching process).

The teacher demonstrates a specific basketball move such as a pivot.
The teacher is talking while demonstrating a jumpshot.
The teacher is describing the bump while a student demonstrates for the class.

2.50 Translates figurative statements to literal statements or vice-versa - not applicable.

2.60 Translates a foreign language to English or vice versa - not applicable.

Translation is dependent upon possession of relevant knowledge. The task is to convert communication into known terms; it requires the understanding of the literal message in communication. Communication is used here in its broadest sense; it could be a demonstration, field trip, a musical work, a verbal message, or in pictoral or symbolic form.

****

3.00 Interpretation

Average number of occurrences per conceptual lesson:
Teacher = 17.56 Student = 13.88

Standard Deviation: Teacher = 3.66 Student = 6.94
(re Category 3.00)

Subcategories of Categories 3.00

Conceptual Approach Study Examples:

3.10 Gives reason (tells why)
"You will succeed because you have the determination to finish what you start."
"The reason for taping an ankle for the game is to prevent a sprained ankle."

3.20 Shows similarities, differences. (Note: for this study the teacher may show similarities, differences, or both together.)
"The tennis serve is like throwing a ball; however, the racquet adds to the complexity of the skill as it extends your reach."

"Smashing in badminton is like spiking the volleyball; you hit the object hard in a downward direction with force."
"Rugger and soccer are British games; however, in soccer the basic difference is you can't touch the ball with your hands."

3.30 Shows cause and effect relationship.
"We lost the game because we could not stop their offense."
"The sprained ankle kept him out of the game."
"They scored the winning goal because John did not cover his man."

3.40 Summarizes or concludes from observation of evidence.
"In order to smash the bird, should you hit the bird when it is behind your head, above your head, or in front of your head?" Student tries all three and answers: "in front of your head."
"From seeing his ability to perform the skills, he will play well in game situations."

3.50 Gives analogy, simile, metaphor.
"He runs like a deer."
"When you dribble around the corner, get lowlike a sports car."
"You're leaning over that bar (weight lifting) like a wet piece of spaghetti."

3.60 Performs a directed task or process. Note: for the purpose of this study the following examples occurred:
a) students perform a task as directed by the teacher.
b) teacher performs a task as directed by a student or other teacher.

In interpretation, an individual not only identifies and comprehends ideas, as in translation, but also understands their relationships. It goes beyond repetition and rephrasing the parts of a communication to determine the larger and more general ideas contained in it. Thus, comprehension may require reordering into a new configuration in the mind of a person, involving the determination of the relative performance of ideas and the interrelationships. However, thinking is dependent upon what is given to the student -- he is not expected to bring abstractions from other experiences into the situation.

There is a very close relationship between items 24 (gives reason) and 27 (shows cause and effect relationship). Very often a behavior which could be described by item 27 would often be described by item 24. However, if item 27 is to be marked, there must be evidence that the relationship between the casual agent and the outcome has been clearly explicated.

****

4.00 Application

Conceptual Approach Study Examples:

Average number of occurrences per conceptual lesson:
Teacher = 6.22 Student = 7.00

Standard Deviation: Teacher = 1.50 Student = 2.03
(re Category 4.00)

Subcategories of Category 4.00

4.10 Applies previous learning to new situation.
"In volleyball we learned to spike the ball by hitting it in front of our bodies in a downward motion with force. The same holds true for the smash in badminton."
"In hitting a baseball, you must swing and keep the bat level; the same concept holds for the forehand tennis stroke."
"We have learned that the shuffle step is effective for defense in European Handball, and the same holds true for basketball."

4.20 Applies principle to new situation.
"In spiking the volleyball, we found that the longer the lever, the more force may be applied to the ball. Therefore, the longer the lever in the badminton smash the more force will be applied to the bird."
"In looking at the efficiency-proficiency principle in swimming, you will swim more efficiently if you cup your hands as you pull your arm through the water."

4.30 Applies abstract knowledge in a practical situation. (Note: for the purposes of this study, this item involves the use of abstract knowledge in a drill situation.)
A student tries to perform a double leg takedown in wrestling in a dull situation.
The teacher verbalizes how to use the double leg takedown in a drill situation.

4.40 Identifies, selects, and carries out the process. (Note: for the purpose of this study, this item occurs in the game situation where the student applies previous knowledge in a spontaneous situation.)

A student moves into a defensive stance in a basketball game and performs defensive manoeuvres when he recognizes the opposing team is on the offensive.

A student moves into the bump position to dig a ball in a volleyball game.
At this level, the individual must know an abstraction well enough to be able to demonstrate its use in a new situation. The task is to bring to bear upon given situations the appropriate information, generalizations, or principles that are required to solve a problem. Application as distinguished from comprehension, involves transfer of training. It is based on the individual's being able to apply previous learning to a new situation without having been shown how to use it.

****

5.00 Analysis

Average number of occurrences per conceptual lesson:
Teacher = 18.04 Student = 8.55

Standard Deviation: Teacher = 3.52 Student = 5.94
(re Category 5.00)

Subcategories of Category 5.00

Conceptual Approach Study Examples:

5.10 Distinguishes fact from opinion. (Note: The first four items at this level describe skills used in the identification or classification of the elements of the communication)
"It's your opinion that you shoot better off of one foot. It is a fact of good shooting technique that you will score more baskets when you have both feet on the ground shoulder width apart."
"You feel Maurice Richard is the only player to score five goals in one game. If you check the records, three players have scored six goals in one game in the past two years."

5.20 Distinguishes fact from hypothesis.
"Teacher: "Which gives you more force, a short lever or a long lever"?
Student: "short lever".
Teacher: "Try the experiment".
Student tries and answers: "it is a long lever".

Teacher: "Which way can you stop a soccer ball with more control, your instep or your toe?"
Students try it.
Teacher: "Which is easier and gives more control?"
Student: "the instep."

Note: for the purposes of this study, items 34 and 35, the fact and opinion or hypothesis both have to be verbalized and not assumed to be stated by the raters.

5.30 Distinguishes conclusions from statements which support it.
"Kicking is a difficult skill because you are off balance when supported on only one leg and consistency is difficult unless your toe and instep are fully extended."
"Serving, it is an accuracy thing; 1. can you get it over the net, and 2. can you place it where you want it in a certain area?"

5.40 Points out an unstated assumption.
"The more you fool around the less time you will have to play a game."
"When you hit the ball up, wait for it and it will bounce."

5.50 Shows interaction or relationship of elements.
Note: these next five items are concerned with the ability to recognize and make explicit relationships between elements.

"Balance in a basketball stance depends upon the position of the hands, torso, and the feet, not just one or the other."
"A set shot is influenced by the arm action, the wrist action and the flexing of the knees."
"Force - speed of the bird, height and distance are factors that influence a clear shot in badminton."

5.60 Points out particulars to justify a conclusion.
"Our team is winning 6 to 5."
Teacher: "find a way to project the ball with a part of your body that does not include your legs."
Student: "Hey, I can hit it with my head."

Teacher: "How can you stop a high ball that is coming towards your upper body?"
Student tries and answers, "with your chest".
Teacher: "What do you do to gain control of the ball, that is, how do you force the ball to your feet?"
Student: You absorb the ball by moving back as it hits your chest.
Teacher: Therefore, you can stop the ball with your chest and gain control by absorbing it.

5.70 Checks hypothesis with given information.
"We know it is important to set the ball softly. See what happens when you cup your hands as you set the ball. Also, see what happens as you flex your knees as you set the ball."
"To clear the bird, see if you should hit the bird out in front of your body, at the side of your body, or behind your body. See which way will get the bird high with lots of distance."

Note: Students are coded when they perform the directed task.

5.80 Distinguishes relevant from irrelevant statements.
"Don't worry about accuracy because we are concerned with force and power in this drill."
"It doesn't matter which foot is forward, just remember to flex your knees."
"Don't worry about beating your opponent, just hit the ball to your partner for practice."

5.90 Detects error in thinking. (Note: for the purpose of this study this item was coded for error of performance as well.)
"You lost your balance because your head was down."
"Your offense broke down because you forgot to set the screen."
"Your feet must move quicker when you get set for the forehand stroke."

5.95 Infers purpose, point of view, thoughts, feelings.
"It appears you planned the offense so that when you set up the screen by the key, John could cut to the basket."
"Do you mean you have 2 hands on the racquet to give you more support on your backhand?"

This level describes cognitive behavior in which there is an emphasis on the breakdown of material into its parts in order to detect the relationships of the parts and the way they are organized.

****

6.00 Synthesis

Average number of occurrences per conceptual lesson:
Teacher = 1.305 Student = no score

Standard Deviation = (re Category 6.00)
Teacher = 2.01 Student = no observations

Subcategories of Category 6.00

Conceptual Approach Study Examples:

6.10 Reorganizes ideas, materials, processes.
A team develops in their own plays for a basketball game.
A team solves a problem in their defense by rearranging their defensive alignment.

6.20 Produces a unique communication or divergent idea.
Not observed in this study.

6.30 Produces a plan, proposed set of operations.
A teacher develops a drill to fit a situation to get across certain facts, concepts, or generalizations.
Students develop system of plays in preparation for a game.

6.40 Designs an apparatus.
Not observed in this study.

6.50 Designs a structure.
Not observed in this study.

6.60 Devises a scheme for classifying information.
Not observed in this study.

6.70 Formulates hypothesis, intelligent guess.
Not observed in this study.

6.80 Draws inductive generalization from specifics.
This item describes behavior that is often the desired result of "guided discovery" or the other terms used to denote inductive reasoning. The child who formulates a concept, principle, rule, or generalization from acquaintance with specific information is evidencing this kind of behavior.

This level of the taxonomy represents cognitive activities in which the individual puts together elements and parts in order to form a whole in such a way as to constitute a pattern or structure that was not started before. This entails recombining parts of earlier experiences in a new organization that is unique to the synthesizer. In analysis, the person takes apart a given whole; in synthesis, he creates a whole.

****

7.00 Evaluation

Average number of occurrences per conceptual lesson:
Teacher = 3.45 Student = .43

Standard Deviation: Teacher = 1.20 Student = .78
(re Category 7.00)

Subcategories of Category 7.00

Conceptual Approach Study Examples:

7.10 Evaluates something from evidence. (Note: for the purposes of this study this item describes evaluation of ideas, materials, processes for which specific evidence is presented as criteria for judgement of worth or value which can be observed but not necessarily verbalized)
"That was a much better hit because you bent your knees."
"That looks like a good offense you developed."
"That was an excellent serve, right on the button."

7.20 Evaluates something from criteria. (Note: for the purposes of this study this item describes evaluations made from standards which are explicitly expressed. These standards or criteria may be set by the evaluator or for him and in a disucssion they must be verbalized.

Example - skill tests, written tests, oral tests.

It is this level which describes activities of conscious judgement making. It involves the use of criteria or standards to determine the worth or value of methods, materials, or ideas.

****

Problem: (2)

Focus 3: What is the nature of the interaction between teacher and student occurring in conceptual approach physical education lessons?

Sample Size: Teachers: 8
Students: 400

Results Summary:

Teachers utilizing the conceptual approach in physical education lessons used indirect teacher verbal influence almost as much as they used direct influence. The teachers were involved in interaction two-thirds of the total interaction. All conceptual teacher utilized skill clarification in which they caused students to think about their skills but at the same time were non-evaluative. Conceptual teachers did not use criticism and rejection and generally did not use corrective feedback which is evaluative and indicates correctness of behavior.

Students participated in interaction or were silent (including practice) for under one-third of the interaction. Verbally, students answered questions of teachers with emitted (i.e. broad responses) answers a $\bar{x}$ = 7% of the total interaction and gave conforming (i.e. expected) answers a $\bar{x}$ = 3% of the time. Student questions comprised $\bar{x}$ = 1% of the verbal interaction. Teacher asked questions 18% of the total interaction, but utilized demonstrations for $\bar{x}$ = 0.54% of the interaction.

FOR COMPLETE RESULTS SEE PAGES 35-46.

CONCEPTUAL APPROACH STUDY IN SECONDARY PHYSICAL EDUCATION IN ALBERTA

PART A

Nature of the Interaction Between Pupil and Teacher in Conceptual Approach Lessons

Method Utilized:

The sample size for this part of the study was N = 400 students, N = 8 conceptual approach teachers and N = 21 lessons.

The Hough System developed by John B. Hough[1] was utilized to describe the nature of the interaction occurring. The system is a modification of the Flanders System of Interaction Analysis. The category dimensions are affective and activity (i.e. doing something). The system provides for the collection of information about kinds of teacher feedback (whether or not the pupil is given data about why his answers or behaviors are inappropriate); about whether pupil responses are elicited or emitted spontaneously; and whether silence is a result of pupils practicing an activity, thinking, watching a non-verbal teacher demonstration or the like. Systematic observation utilized in this way is a tool for objectively describing the cause - act - effect loop of teacher - pupil interaction.

As for the Florida Taxonomy of Cognitive Behavior the study trained raters to acceptable Scott's reliability levels, utilized VTR and wireless audio recordings, and then analyzed the nature of the interaction occurring in conceptual approach physical education lessons. Each teacher's lessons were rated for three randomly selected periods of time. A representative sample of conceptual teacher and student behavior was used in analyzing interaction.

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1. Hough John B., An Observational System for the Analysis of Classroom Instruction Mirrors for Behavior (System 9) or see Amidon, Hough, I.A. Theory, Research and Application, Addison-Wesley, 1969.

Ability of Trained Raters:

Scott's Coefficient of Reliability for this Study = 0.89

Results:

I Basic Interaction Behavior of Physical Education Conceptual Approach Teachers

Conceptual approach teachers in the present study utilized indirect teacher verbal influence almost as much as they utilized teacher direct influence (Indirect = 30.6%; Direct = 36.7%; Total Teacher = 67.3%).

Teacher indirect influence consists of five areas. Conceptual approach teachers asked questions of students (18.3% of total interaction) and utilized cognitive and skill clarification and acceptance (9% of the total interaction). Cognitive and skill clarification includes using statements to students which clarify student ideas or performance, but are non-evaluative (evaluative statements are of course direct teacher behaviors). Conceptual teachers occasionally utilized the following indirect behaviors:

1. Affective clarification and acceptance
2. Praise and reward
3. Response to questions

Teacher direct influence consists of four areas. Conceptual teachers utilized the category initiates information and opinion and requests and commands for a considerable amount of the total interaction (16.5% and 17.3% of the total IA). Conceptual teachers did not utilize criticism and rejection. Conceptual teachers generally did not utilize corrective feedback which is evaluative (i.e. indicates incorrectness or inappropriatness of behavior). This category is restricted to behaviors in cognitive or skill areas for which behavior can be considered correct by definition or generally accepted convention. Three conceptual approach teachers used this teacher interaction behavior (range 5 - 7%) and five did not. As stated above, all conceptual teachers utilized skill clarification (range 5% - 19% of interaction, or $\bar{x}$ = 9%) that is, they caused students to think but at the same time were non-evaluative.

II Basic Interaction Behaviors of Physical Education Conceptual Approach Students

For conceptual approach lessons students were the sources of interaction (as shown by application of the Hough System of Analysis) a total of 29.4% of the total interaction. In approximate terms teachers were the source of two-thirds of the interaction and students one-third of the interaction.

Table 5

Interaction for Conceptual Approach Teachers and their Students (Hough System)

	Teacher								
	1	2	3	4	5	6	7	8	$\bar{x}$
Indirect Teacher Verbal Influence (#1 - #5)	TA 43.5	HT 14.9	AM 31.5	DH 20.1	FG 22.6	JS 30.5	LP 40.4	DF 41.8	30.6
Teacher Direct Influence (#6 - #9)	25.5	48.1	45.8	33.2	45.2	33.5	37.9	26.7	37.0
Teacher Total (Indirect and Direct)	69	63	77.3	53.3	67.8	64	78.3	68.5	67.6
Student Verbal Behavior (#10 - #12)	10	8	6.6	14.3	4.8	20	11.7	4.5	9.9
Silence (inc. Practice) (#13 - #15)	22.7	28.8	12.5	26.1	23.6	12	4.9	14.8	18.1
Non Functional Behavior (#16)	1.3	0	3.1	2.1	6.6	3.5	4.9	12	4.2
									99.8

Table 6

Indirect Teacher Verbal Influence

Hough System Number	Categories	Range L	%	Range H	Mean	
1.	Affective Clarification and Acceptance	0		1.2	0.24	
2.	Praise and Reward	0		4.6	1.8	
3.	Cognitive and Skill Clarification and Acceptance (i.e.clarifying)	4.8		19.0	9.05	
4.	Teacher Questions	6.9		33.0	18.3	
5.	Response to Questions	0.8		4.1	1.2	
					30.6%	of total interaction

Table 7

Teacher Direct Influence

Hough System Number	Categories	Range L	%	Range H	Mean	
6.	Initiates information or opinion	0		29.0	16.5	
7.	Corrective Feedback (i.e. evaluative)	0		7.4	2.7	
8.	Requests and Commands	4		26	17.3	
9.	Criticism and Rejection	0		1.2	0.2	
					36.7%	of total interaction

Table 8

Student Verbal Behavior

Hough System Number	Categories	Range L	Range H	Mean	
10.	Elicited Response (i.e. Conforming)	0	6.0	2.9	
11.	Emitted Response (i.e. Broad)	3.6	11.2	7.3	
12.	Student Questions	0	4.1	1.1	
				11.3%	of total interaction

Table 9

Silence (inc. practice)

Hough System Number	Categories	Range L	Range H	Mean	
13.	Directed Practice or Activity	3.9	28.0	16.0	
14.	Silence and Contemplation	0	4.3	1.6	
15.	Demonstration	0	4.3	0.54	
				18.1%	of total interaction

Table 8 and 9 indicate that students were involved in answering questions (10% of interaction) of conforming (i.e. elicited) and broad (i.e. emitted) types. Students more often gave answers to broad questions (i.e. not previously associated with specific stimuli or a class of stimuli) or answers which were statements of opinion, feeling, or judgment. Conforming responses to narrow questions or highly predictable responses were utilized three percent of the total interaction. Student questions were uncommon.

The other category of student involvement was the Hough category labelled silence (including practice). Directed practice or activity includes all non verbal behavior requested or suggested by the teacher. The students in this study participated in practice 16% of the total interaction. Students and teachers were not involved highly in silence and contemplation or in demonstration.

Note: Tables 6 - 9 display the interaction categories, the ranges of percentage interaction, and the means for percentage interaction.

Note: Table 5 summarizes the descriptive information for the five main areas of interaction.

III Interaction related to Directed Practice or Activity by Students

Cognitive approach teachers frequently taught physical education skills and knowledges in accompaniment with indirect teacher verbal influence categorized as cognitive and skill clarification. This teacher category occurred during 9% of the teacher-student interaction. Teachers used this behavior after they asked a question which led to a student physical response or after students gave an answer to the question. This teacher behavior was often of the extended characteristic (that is, it was coded more than once since it often occurred consecutively after a brief period of time).

Conceptual teachers did not utilize praise and reward extensively, apparently preferring to be non-evaluative and to clarify and ask questions of their students.

Conceptual teachers rarely utilized statements of acceptance, clarification and recognition of students emotional states.

Teachers can utilize a teacher direct influence category known as corrective feedback (#7), a category in which the teacher makes statements designed to indicate the incorrectness or inappropriatness of behavior in a way that enables the student to see his behavior is incorrect or inappropriate and/or why. Such statements are restricted to skill areas in which behavior can be considered correct or appropriate by definition. Conceptual approach teachers generally did not utilize this teacher move although they varied in their style as far as this category was concerned (for example, five experimental teachers did not use this category while three did use this category for 5 - 7% of the total interaction).

A category which was often utilized was initiating information and opinion. The average use was 16.5% of total interaction. These are usually statements regarding content and process. Oftentimes such statements are extended occasions of giving information or opinion and quite often they follow teacher questions (or they answer their own rhetorical questions!), or are in response to students answers. It is likely that this percentage is low in comparison with other physical education teachers (based on the investigators observations).

Finally, conceptual approach teachers were found to seldom utilize criticism and rejection.

Teachers did not respond to student questions very often since students did not ask questions very often according to the analysis this study carried out.

Teachers in this study did ask many questions of their students. For the sample analyzed the minimum teacher question percentage of total interaction was 7% and the maximum was 33%. Conceptual approach teachers in this study used teacher questions just over 18% of the total interaction and this teacher skill appeared to be a key teacher characteristic.

IV Style of Teacher Questions Utilized by Conceptual Approach Teachers

Conceptual approach teachers tend to ask questions not previously associated with specific stimuli or a class of stimuli. From this finding it appears that experimental teachers do not depend upon reinforcement (Skinnerian) theory in formulating their questionning strategies. Rather, they ask questions which encourage emitted or broad responses. These responses include statements of opinion, feeling and judgment. Students respond to questions 10% of the total interaction and ask questions 1% of the total interaction.

V Teacher Utilization of Requests and Commands

A large part of interaction from any teacher source has to do with requests and commands. These statements include directions, requests and commands to which compliance is expected. The majority of the conceptual approach teachers utilized this behavior. Table 7 indicates a mean percentage of 17.3% of total interaction. This extensively utilized behavior of conceptual teachers forms part of three behaviors which account for nearly one half of the total interaction (i.e. requests and commands; teacher questions; and initiating information and opinion).

VI Student Directed Practice or Activity

For the samples of teacher-student interaction coded in this study, students were involved in directed practice or activity (i.e. at such times no verbal behavior of any Hough category was being evidenced) for 16% of the total interaction. This category is not reliable for an accurate assessment of student practice or activity since teacher or student verbal behavior would be coded when it occurred at the same time as practice was occurring.

TABLE #10

MATRIX FOR CONCEPTUAL APPROACH TEACHER AND CATEGORY PERCENTAGES FOR ALL CONCEPTUAL TEACHERS

INTERACTION VIA THE HOUGH SYSTEM

MATRIX FOR A CONCEPTUAL APPROACH TEACHER

CATEGORY NUMBER		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	T
	1																	0
	2			1								3		5				9
	3			3	1				1		3	3		1				12
	4		2	7	28	1	3		6		2	5	12					66
	5					1						1						2
	6				1		17		3					1				22
	7								2									2
	8		3		8		1	1	16			2		4			3	32
	9																	0
	10				6													6
	11				16													16
	12																	0
	13		4	1	6		1	1	9		1			27				50
	14																	0
	15																	0
	16				2				1			2						3
CATEGORY FREQUENCY	*F	0	9	12	66	2	22	2	32	0	6	16	0	50	0	0	3	220
TEACHER #1 (TA)	%	0	4.1	5.5	33	9	10	9	14.6	0	2.7	7.3	0	22.7	0	0	11.3	%
	F	0	6	12	17	2	60	14	46	0	7	9	4	68	2	0	0	247
TEACHER #2 (HT)	%	0	2.4	4.8	6.9	8	24	5.5	18.6	0	2.8	3.6	1.6	28	.8	0	0	%
	F	2	12	16	52	0	36	19	62	1	1	16	0	10	11	11	8	257
TEACHER #3 (AM)	%	.7	4.6	6.2	20	0	14	7.4	24	.4	.4	6.2	0	3.9	4.3	4.3	3.1	%
	F	0	2	14	15	8	0	14	51	0	6	22	8	49	2	0	4	195
TEACHER #4 (DH)	%	0	1.1	7.2	7.7	4.1	0	7.2	26	0	3.1	11.2	4.1	25	1.1	0	2.1	%
	F	2	0	18	14	0	47	0	27	2	0	8	0	39	1	0	11	169
TEACHER #5 (FG)	%	1.2	0	11.3	10.1	0	28	0	16	1.2	0	4.8	0	23	.6	0	6.6	%
	F	0	3	16	34	8	57	1	8	0	12	22	6	77	7	0	7	197
TEACHER #6 (JS)	%	0	1.5	8	17	4	29	.5	4	0	6	11	3	85	3.5	0	3.5	%
		0	0	23	66	0	27	0	57	0	3	23	0	11	0	0	11	221
TEACHER #7 (LP)	%	0	0	10.4	30	0	12.2	0	25.7	0	1.3	10.4	0	4.9	0	0	4.9	%
		0	2	41	47	0	37	0	21	0	1	9	0	26	6	0	26	216
TEACHER #8 (DF)	%	0	.8	19	22	0	17	0	9.7	0	.4	4.1	0	12	2.8	0	12	%
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
		INDIRECT TEACHER VERBAL					TEACHER DIRECT INFLUENCE				STUDENT VERBAL			SILENCE OR PRACTICE			NFB	

INDIRECT TEACHER VERBAL INFLUENCE

1 AFFECTIVE CLARIFICATION AND ACCEPTANCE
2 PRAISE AND REWARD
3 COGNITIVE AND SKILL CLARIFICATION AND ACCEPTANCE (I E CLARIFYING)
4 TEACHER QUESTIONS
5 RESPONSE TO QUESTIONS

TEACHER DIRECT INFLUENCE

6 INITIATES INFORMATION OR OPINION
7 CORRECTIVE FEEDBACK (I E EVALUATIVE)
8 REQUESTS AND COMMANDS
9 CRITICISM AND REJECTION

STUDENT VERBAL BEHAVIOR

10 ELICITED RESPONSE (I E CONFORMING)
11 EMITTED RESPONSE (I E BROAD)
12 STUDENT QUESTIONS

SILENCE

13 DIRECTED PRACTICE OR ACTIVITY
14 SILENCE AND CONTEMPLATION
15 DEMONSTRATION

NON FUNCTIONAL BEHAVIOR

16 CONFUSION AND IRRELEVANT BEHAVIOR

Silence and contemplation was found to occur 1.6% of total interaction and demonstration was found 0.54% of total interaction. For our sample only one teacher demonstrated (4% of her teacher-student interaction) and it was noted by the investigators that this low utilization of demonstration was usual.

Non-functional behavior occurred 4.2% of the total interaction.

VII Interaction Patterns for Conceptual Approach Teachers

Table 10 summarizes the interaction percentages for each of the teachers and their students analyzed by the conceptual approach study in secondary physical education in Alberta

A matrix is shown for one of the teachers whose patterns are extremely similar to the group of teachers studied. The extended cells fall on the diagonal line.

VIII Most Indirect and Direct Social Studies Teachers and Math Teachers and Conceptual Approach Physical Education Teachers

Table 11

A Comparison of the Per Cent of Selected Teacher and Student Behaviors Reported by Flanders for the Most Indirect and Direct Social Studies Teachers*.

Flanders 1A	Categories	Hough OS1A	Indirect Teachers	Direct Teachers
1, 2 and 3		1, 2 and 3	9.8%	3.8%
4		4	10.5%	8.3%
8 and 9		10, 11 and 12	25.9%	22.8%

Flanders, 1965a.

Table 12

A Comparison of the Per Cent of Selected Teacher and Student Behaviors Reported by Flanders for the Most Indirect and Direct Mathematics Teachers*.

Flanders 1A	Categories	Hough OS1A	Indirect Teachers	Direct Teachers
1, 2 and 3		1, 2 and 3	10.0%	3.0%
4		4	11.7%	6.6%
7		7 and 9	0.9%	5.9%
8 and 9		10, 11 and 12	16.6%	14.1%

*Flanders, 1965a.

Table 13

Conceptual Approach Physical Education Teachers

Flanders IA Categories	Hough OSIA	Conceptual Teachers
1, 2 and 3	1, 2 and 3	11.1%
4	4	18.3%
7	7 and 9	2.9%
8 and 9	10, 11 and 12	11.3%

Conceptual approach physical education teachers in Alberta (1975) can be compared to social studies and mathematics teachers by utilizing data presented by Ned Flanders in 1965. The information is tabulated in Tables 11, 12, and 13. The Physical Education teachers under study were more indirect than were Social Studies and Mathematics teachers studied by Flanders. Students of conceptual approach teachers in Alberta used less behaviors categorized as student verbal behavior (i.e. broad responses, conforming responses, and student questions) than did social studies and mathematics students. Physical education students solve problems by behavior exhibited in both the cognitive and the psychomotor domains.

Problem: (3)

Focus 4: What is the attitude of students toward lessons taught by the conceptual approach?

Sample Size: Students: N = 400 Conceptual classes
N = 50 Interviewed students
N = 200 End of unit sample
N = 30 Parents and Student associates

Summaries of the Findings:

Part III of the present study presents data in the form of student opinion derived from questionnaires; student opinion from fifty interviewed students from conceptual approach lessons; student opinion from N = 200 students after their unit of instruction had been completed and opinions gathered from incidental evidence reported by parents and other student associates. Teachers opinions are contained in Part IV of the present final research report.

The summaries for each of the sections of Part III Opinion commence on the following pages:

(a) Summary of Student Opinion from Questionnaires - Page 48 - 51
(b) Summary of Student Opinion from Interviews - Page 72 - 74
(c) Section on End of Unit Opinions - Page 97 - 102
(d) Section on Incidental Evidence Reported by Parents and other Student Associates - Page 103 - 106

THE ATTITUDES OF STUDENTS TO EXPERIMENTAL LESSONS UTILIZING THE CONCEPTUAL APPROACH IN PHYSICAL EDUCATION IN ALBERTA SECONDARY SCHOOLS (1975)

PART A SUMMARY OF STUDENTS ATTITUDES

(CLASS SAMPLE GROUP)

N = 335

After each lesson observed and recorded for analysis by the research team a questionnaire was filled out by all members of each class.

The sample group thereby consisted of N = 335 members of both sexes from grades six and up, including Physical Education 10 class groups and one Physical Education 30 group.

The following is a summary of the attitudes of these students to various aspects of the conceptual approach lessons and of their attitude and association with sport and physical activity.

The reader will find definite parallels between the questions and responses of this sample group in comparison with the special interview sample group of N = 50 randomly selected students from the class populations utilized. The answers are of course rather general whereas the interview provided detailed answers.

(1) Since it was assumed that conceptual approach lessons emphasize students being involved personally in the learning process this study attempted to determine students attitude to "figuring out things for yourself" in accompaniment with appropriate teacher support and involvement through conceptual means.

1.1 The attitude of 271/321 students was positive to such involvement for three basic reasons:
- (a) think more, learn more and understand better
- (b) it involves work you want to do
- (c) you remember better

1.2 The attitude of 50/321 students was negative to such involvement for three basic reasons:
- (a) you learn more from teacher
- (b) improper learning and learning difficulties are likely
- (c) should emphasize the proper way

(2) Since it was assumed that learning should be enjoyable to be effective, N = 331 students were asked what their attitude was to their physical education lessons. The results indicated:

0.12% don't enjoy it
10% sometimes enjoy it
3% enjoy p.e. about the same as other subjects
30% usually like it
56% enjoy p.e. most of all

(3) The nature of the enjoyment and self-satisfaction gained by students in their physical education lessons is as follows:

(a) a cluster of answers to do with wide ranging satisfactions such as good feelings, seeing ones own progress; and maintaining thinking, social, and ego needs
(b) a cluster of specific sport satisfactions (see detailed results)
(c) certain satisfactions were held in common by grade tens (N = 83) and related to learning by experimenting for oneself and to getting into shape and having fun.
(d) certain satisfactions having to do with conceptual approach lessons in particular such as working with different ways of doing things, enjoying and doing better than previously, and in gaining confidence by being involved.

(4) It was assumed that students would be thinking for themselves in conceptual approach lessons in physical education. According to students 268/320 were thinking for themselves and it was found that this group could give examples of thinking they had done. Examples of the answers can be found in the section following this summary (note: students ability to function cognitively was examined in detail in this study and can be found in the Final Report under Problem #1 - Ability to Conceptualize). According to 52/320 students, they did not think for themselves in the unit of activity they were participating in at the time.

(5) The main reasons that students liked their conceptual approach lessons had to do with: learning for themselves: learning more; experimenting; the teacher; the fact that it was different and it was fun; interesting learning; more freedom; stress on understanding games; personal play and skill correction; and finally, to do with getting more involved with what you're doing and putting more into it.

(6) The attitudes of students to liking or disliking the conceptual approach lessons broke down as follows:

(a) N = 235 or 70% stated no dislikes
(b) N = 50 or 15% stated some dislikes
(c) N = 50 or 15% disliked conceptual approach classes.

The dislikes that were most frequently stated were it take too long before we play the game; it's hard to understand; it's slow and takes a long time to learn; it's too basic; kids goof off; and there are too many questions and quite a lot of teacher talk.(see details for other points raised)

(7) According to the students questionned there was a significant relationship between their physical education classes this year and getting interested or "turned on" to sports and activities. The students (204/281) who got "turned on" specified some of the following sports as summarized below. The grade eights (N = 85) were particularly involved in this process of getting into sport. (69/85)

Volleyball	(49)	Badminton	(20)	Gymnastics	(5)	Swimming	(9)
Basketball	(82)	Wrestling	(5)	Hockey	(4)	Tennis	(6)
						Skiing	(5)

(8) Approximately one-third of the sample group mentioned responses indicating specifics that turned them off in their present physical education classes such as drills, long explanations, theory, level too elementary (P.E.30), girls, no girls, boys, shuttle run, warm-ups and basketball. A concern was expressed by students for not enough physical education, instruction that was too methodical or simple, adequate time for certain units, large classes, and tendencies to disorganization.

(9) When questionned about utilizing modified games and balls and equipment not designated as official for the particular game or activity there was an attitude expressed which was comprised of three different points of view. One large segment felt the "real thing and the real game" should be used; a second common opinion stressed that it didn't matter at all, and a third group felt that more is learned by utilizing special games, equipment, and/or balls. Somewhat more valuable information was attained in the interview sample group regarding this matter.(see Attitude - Special Sample)

(10) Students attitude to their present classes was assumed to be highly related to both the teacher and the activities being utilized. The influence of two other factors (thinking involved and novel approach) was investigated as well. Of these four factors, the activities in class was most related to liking physical education (226/553); the teacher was next (155/553); the thinking involved was next (90/553) and the novel approach (62/553) was least influential of the four factors.

(11) When the conceptual approach to classes utilizes the technique of student-student skill analysis and analysis sharing, students in the sample utilized expressed three opinions to such procedures. The first opinion was that analysis is often not possible since we don't know what to look for; the second cluster of common opinion indicated that such analysis can often lead to hurt feeling; the third common opinion was that such analysis is usually o.k.

(12) The majority of students (N = 192) see a benefit in partner analysis when asked to answer yes or no to the question "do you see a benefit in partner analysis". The benefit is (a) partner can do better after being told, (b) you see your own mistakes as you analyze, (c) you help each other learn.

(13) When asked if they <u>remember skills</u> better from conceptual approach lessons or other physical education lessons a total of 265/309 state that they remember skills better in conceptual approach lessons.

(14) Since it was assumed that conceptual approach lessons utilized students working with each other the study determined if students preferred working with other students in conceptual approach lessons as compared to other p.e. lessons. Fifty percent of students (162/324) like working with others a lot more; 20% a bit more; 25% same as before; 2.5% a little less and 2.5% a lot less.

(15) In conceptual approach lessons students who did not learn their skills or other materials usually felt they would learn it eventually or they expressed the idea that "nobody's perfect" (N = 190). Other students (N = 103) indicated some feelings of embarrassment, feelings related to being dumb, straightforward frustration, and a minority of resentments such as "they only help the good ones". (6/300)

(16) Grade sixes, grade eights, and grade tens (N = 217) agree rather consistently that the purposes of physical education have to do with:

Keeping fit =	107
Learning gamest sports =	94
Learning skills =	30
Meeting people and getting along =	20
Enjoymert and fun =	32
Thinking and understanding =	25

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CONCEPTUAL APPROACH STUDY

IN SECONDARY PHYSICAL

EDUCATION IN ALBERTA

PART A DETAILS

ATTITUDE OF STUDENTS SAMPLE (N = 335)

In order to expand the study of students attitudes to various aspects of conceptual approach teachers lessons an additional sample of grade 6 - 12 was selected. For this purpose a twenty-one item questionnaire was utilized. The questionnaire was answered at the end of the conceptual approach lessons during the visit of the research team.

The sample was composed of boys and girls in the following grades:

Grade 6 = 46
Grade 7 = 67
Grade 8 = 88
Grade 9 = 28
P.E. 10 = 83
P.E. 30 = 23
N =335

TOPIC 1: DO YOU LIKE FIGURING OUT THINGS FOR YOURSELF?

ALL GRADES: YES = 271 NO = 50

YES - Most Common Responses and Frequencies:

(1) You learn more, you understand better, you think harder (N = 37) ("You come to school to learn and in this present P.E. that's what you are doing")

(2) Learn at your own pace; challenge; fun; interesting; learn your own style and skills are suitable to yourself; you discover things about yourself; (as one Grade Seven put it "it's not work you have to do, it's work you want to do.") (N = 33)

(3) Can remember better and longer. (N = 26)

****

Perhaps the reason students like to figure out things for themselves is.....

"because I can.....it shows you don't have to have someone else do your work for you.....everyone is different and what works for me may not work for you."

****

NO - Most Common Responses and Frequencies:

According to the results of our questionnaire there were fifty students who, for the reasons summarized below, did not concur that learning should be primarily an "yourself" proposition. A summary of their responses indicates:

(1) You can learn more from the teacher. (N = 9)

(2) I like to learn properly; you can pick up bad habits; it's easier when someone shows you; it's more difficult to do on your own; it's easier to be taught and you learn better. (N = 6)

(3) First I like to know the proper way. (N = 14)

****

A grade ten summarized the general responses rather simply.....
"When you are shown everything by the instructor it tends to get boring and you don't learn as much."

Another grade nine added.....
"the teacher may not have thought of all the things."

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Conceptual Approach Study
in Secondary Physical
Education in Alberta

ATTITUDE OF STUDENTS SAMPLE (N = 335)

TOPIC 2: HOW MUCH DO YOU ENJOY YOURSELF WHEN YOU ARE TAKING YOUR PHYSICAL EDUCATION CLASSES?

ALL GRADES: SUMMARY

	DON'T ENJOY IT		SOMETIMES ENJOY IT		ABOUT THE SAME AS OTHER SUBJECTS		USUALLY LIKE IT		ENJOY P.E. MOST OF ALL	
GRADE 6 -	-	-	1	-	3	-	7	-	34	
7 -	-	-	3	1	2	-	17	-	28	15
8 -	-	3	11	-	-	1	23	6	43	0
9 -	-	-	4	-	-	-	6	1	13	4
P.E. 10 -	1	-	5	-	4	1	24	8	28	13
P.E. 30 -	-	-	7	-	-	-	7	-	5	3
TOTALS -	1	3	31	1	9	1	84	15	151	35

TOTAL N = 331

According to the sample of 331 grade six through P.E. 30 students a large percentage (56%) of the group state that they enjoy physical education from their conceptual approach teachers most of all; a second large group state they usually like it; and finally, a small group indicates that they sometimes enjoy physical education. (N = 34)

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Conceptual Approach Study
in Secondary Physical
Education in Alberta

ATTITUDE OF STUDENTS SAMPLE (N = 335)

TOPIC 3: WHAT ARE THE THREE MAIN THINGS YOU ARE LEARNING IN PHYSICAL EDUCATION?

Grade Six
(1) to be fit
(2) to be a good sport
(3) to increase my skills

Grade Seven
(1) to do different skills
(2) to exercise properly
(3) to gain interest in sport

Grade Eight
(1) to do different skills
(2) sportsmanship
(3) to know rules

Grade Nine
(1) sportsmanship
(2) to do different skills
(3) to be fit

P.E. 10
(1) to keep in good physical shape
(2) sportsmanship
(3) to do different skills
mentioned also with high frequency:
(4) human relations
(5) teamwork in games

P.E. 30
(1) to do different skills
(2) participation - group and individual

****

Conceptual Approach Study
in Secondary Physical
Education in Alberta

III ATTITUDE OF STUDENTS SAMPLE (N = 335)

TOPIC 4: WHAT IS THE NATURE OF THE ENJOYMENT OR SELF-SATISFACTION YOU ARE GAINING IN PHYSICAL EDUCATION?

SUMMARY:

Of the students who were not confused by the term self-satisfaction used in the questionnaire (all but the grade sixes i.e. N = 290) virtually the majority of students indicated they had gained self-satisfaction from physical education (i.e. 10% indicated no self-satisfaction). As might be expected, there was very little concurrence in the examples given by students, although two clusters of responses were noted.

Cluster #1 had to do with general satisfactions (such as feeling good; to see your own progress; to play better; helps me think; helps me socially; boosts my ego; helps my reflexes; I am proud; I feel good in my next class.....Cluster #2 had to do with specific sport satisfactions such as playing the game with more knowhow; my ability to maneuvre my body is increased; learning more details; learning enough to continue the sport if I want.

The grade tens exhibited greater agreeance in the identity of examples of enjoyment and self-satisfaction than did the other grade groups. The grade tens (N = 83) mentioned the following satisfactions:

(1) satisfaction related to experimenting for yourself.

(2) satisfaction related to finding out for myself.

(3) satisfaction related to learning.

(4) satisfaction related to getting into shape.

(5) satisfaction related to fun.

Responses mentioned that relate particularly to the conceptual approach to teaching physical education are the following:

(1) To work with different ways of doing things.

(2) I'm beginning to enjoy physical education.

(3) I learn more -- that helps me in more than just volleyball.

(4) It's freer than traditional p.e.

(5) I'm learning something and doing things that make me feel good.

(6) The teaching includes quite a lot of detail.

(7) Found I was better at some skills I wasn't good at last year.

(8) It is showing me many things I can do that I thought I couldn't do.

(9) I like it because we all get to have ideas in class.

(10) Our group gets together often and I think this is one way to gain friendship.

(11) It gives me a great feeling to be learning about things.

****

Conceptual Approach Study
in Secondary Physical
Education in Alberta

ATTITUDE OF STUDENTS SAMPLE (N = 335)

TOPIC 5: ARE YOU THINKING FOR YOURSELF IN THIS UNIT IN PHYSICAL EDUCATION? GIVE SOME EXAMPLES OF SOMETHING YOU HAVE THOUGHT OUT FOR YOURSELF.

SUMMARY OF RESPONSES:

YES = 268
NO = 52
BLANK = 15

EXAMPLES OF THINKING IN PHYSICAL EDUCATION DURING CONCEPTUAL APPROACH CLASSES:

Grade Six:

(1) "how to get speed on the racquet"

(2) "I thought of how to get a long lever without his help."

Grade Seven:

(1) "Body rotation to get more speed and distance."

(2) "I learned how to get speed and height and how to enjoy the game."

Grade Eight:

(1) "that distance gives you speed in racquet games."

(2) "if you follow through straight ahead the ball has to go there."

Grade Nine:

"It is the best way for me to do it."

P.E. 10:

(1) "twisting your hips and the relationship it has to a (baseball) pass."

(2) "the importance of using your legs -- and the effect of legs, arms, and hands on volleying."

P.E. 30:

(1) "the effect of follow through on tennis strokes."

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Conceptual Approach Study
in Secondary Physical
Education in Alberta

ATTITUDE OF STUDENTS SAMPLE (N = 335)

TOPIC 6: REASONS STUDENTS LIKE TEACHERS NEW APPROACH IN CONCEPTUAL UNITS OF INSTRUCTION.

SUMMARY OF MAIN REASONS FROM GRADE GROUPS:

Grade Six:

(1) He lets us learn for ourselves.

(2) Because we learn more things.

(3) He does lots of new experiments.

Grade Seven:

(1) The teacher.

(2) "Gives a chance to find out stuff for ourselves."

(3) It's different and it's fun.

Grade Eight:

(1) We get to think for ourselves.

(2) The teacher.

(3) It's fun and I learn more.

Grade Nine:

(1) It's much more interesting.

P.E. 10:

(1) "We can figure out stuff for ourselves."

(2) It's more interesting and different than before.

(3) There's more freedom.

P.E. 30:

(1) More stress on knowing about the game -- not just playing. Understanding why I play and ways to correct my own mistakes.

(2) You get more involved in what you're doing when you have to put more into it.

****

Conceptual Approach Study
in Secondary Physical
Education in Alberta

ATTITUDE OF STUDENTS SAMPLE (N = 335)

TOPIC 7: REASONS STUDENTS DISLIKE TEACHERS NEW APPROACH IN CONCEPTUAL UNITS OF INSTRUCTION.

RESPONSES:

No. of blank questionnaires = 235
No. of responses to item = 100

Of the total N in the questionnaire group itself there were a large percentage who did not respond to the item at all (N = 235). However, a sizable group (N = 100) mentioned some dislikes of their teachers approach. Two of the other questions in this questionnaire would appear to indicate that one-half of this group of 100 students (or 15% of N) disliked the actual conceptual approach while the other fifty disliked some aspect of the approach. (i.e. fifty responders left the "like teachers approach" question blank and fifty responders indicated they did not like to figure out skills for themselves).

A summary of the dislikes of the new approach follows:

Common Dislikes from Most Frequent to Least Frequent:

(1) It takes too long before we play the game.

(2) It's hard to understand.

(3) It's slow and takes a long time to learn.

(4) I don't like being taught as if I were a small child -- I believe experience is the best teacher.

(5) There are too many questions.

(6) It's too basic.

(7) Too many kids goof off.

(8) There is quite a lot of teacher talk.

(9) Prefer the real game not similar games.

(10) Teacher is teaching the same things we learned last year.

(11) I don't think we should work on skills and not the game.

(12) I didn't learn very much.

(13) If you don't know how to do something you have to wait too long to find out.

(14) Before we could work on perfecting a skill rather than trying to figure it out.

(15) The instruction could be more individualized.

(16) There aren't enough facilities.

(17) You really have to work (too hard!)

A Selection of the other responses mentioned one time follows:

(18) It is more boring.

(19) "At first it seemed like a therapy session for retards but it all had it's purpose."

(20) If you are lost you are going to have trouble figuring it out.

(21) We have to go the speed she says but it's interesting.

(22) It makes her job too easy.

(23) I don't like working in groups.

(24) In some of the areas, where you haven't done too much in, I like to be told some of the skills, etc. so we know what to do.

(25) Too detailed -- feels like an academic subject - you can learn just as well without all this fine instruction.

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Conceptual Approach Study
in Secondary Physical
Education in Alberta

ATTITUDE OF STUDENTS SAMPLE (N = 335)

TOPIC 8: RELATIONSHIP BETWEEN PHYSICAL EDUCATION CLASSES AND GETTING "TURNED-ON"TO PARTICULAR SPORTS.

QUESTION: Did you get especially turned on to any sport because of your physical education classes this year?

Grade Seven:

Yes, I did = 39
No, I didn't = 15

Sports:
(1) Volleyball (9)
(2) Gymnastics (5)
(3) Badminton (5)
(4) Wrestling (5)

Grade Eight:

Yes, I did = 69
No, I didn't = 16

Sports:
(1) Basketball (37)
(2) Volleyball (25)
(3) Badminton (15)

Grade Nine:

Yes, I did = 20
No, I didn't = 8

Sports:
(1) Basketball (10)
(2) Volleyball (6)
(3) Hockey (4)

P.E. 10:

Yes, I did = 51
No, I didn't = 31

Sports:
(1) Basketball (35)
(2) Swimming (9)
(3) Volleyball (9)

P.E. 30: Yes, I did = 15
No, I didn't = 7

Sports:
(1) Tennis (6)
(2) Skiing (5)

****

Conceptual Approach Study
in Secondary Physical
Education in Alberta

ATTITUDE OF STUDENTS SAMPLE (N = 335)

TOPIC 9: TURN-OFFS IN PHYSICAL EDUCATION CLASSES.

Approximately one-third of the sample group mentioned responses indicating things that turned them off in their present physical education classes.

Common Responses: (ALL GRADES)

(1) Drills
(2) Long explanations
(3) Theory
(4) Level too elementary (P.E. 30 responses)
(5) Track and field
(6) Girls
(7) No girls
(8) Boys
(9) Shuttle Run
(10) Warm-ups
(11) Basketball

Some legitimate professional concerns were mentioned as follows:

(1) Not enough time or classes in p.e.
(2) The manner in which activities are being offered (as in program).
(3) Adequate time for units; large classes; and tendencies to be disorganized.

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Conceptual Approach Study
in Secondary Physical
Education in Alberta

ATTITUDE OF STUDENTS SAMPLE (N = 335)

TOPIC 10: ATTITUDE OF STUDENTS TO BALLS AND EQUIPMENT NOT DESIGNATED AS OFFICIAL FOR AN ACTIVITY OR SPORT.

Respondents indicated an extremely divergent range of feelings towards this item. Almost all of the sample N had an opinion to express and it appeared that there may be some misunderstanding as regards the purpose of modified balls and equipment.

(1) The largest group felt that the "real thing" and the "real game" should be used. (N = 53)

(2) Another large group felt that it didn't matter at all. (N = 30)

(3) A third group felt more is learned by the proper usage of special balls and equipment. (N = 20)

(4) A generalization might be indicated -- Special equipment and balls are an asset at the beginning of learning in sport since they may assist in skill development; however, except for those two provisos the utilization of "official" balls and equipment should not be delayed since learners seem to be (overly) sensitively concerned with this aspect of ball and equipment utilization.

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Conceptual Approach Study
in Secondary Physical
Education in Alberta

ATTITUDE OF STUDENTS SAMPLE (N - 335)

TOPIC 11: STUDENTS ATTITUDE TO PRESENT CLASSES IN PHYSICAL EDUCATION BY VIRTUE OF RANKING FOUR FACTORS.

Factor 1 - Teacher
Factor 2 - The thinking involved
Factor 3 - The activities
Factor 4 - The novel approach

QUESTION: Do you like your present classes in physical education because of 1, 2, 3, or 4 (select one or more factors)

SUMMARY:	Teacher	Thinking Involved	The Activities	Novel Approach
Grade 6	36	16	35	3
Grade 7	33	20	50	14
Grade 8	42	21	56	23
Grade 9	12	6	11	3
P.E. 10	26	20	58	14
P.E. 30	6	7	16	5
TOTALS	155	90	226	62

Of these four factors it appears evident that a positive attitude to physical education among students is strongly related to both the teacher and the class's activities. Be that as it may it also appears that students taught by conceptual approach teachers indicate that the combined factors of thinking involved and novel approach also relates strongly to their attitudes towards physical education classes.

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Conceptual Approach Study
in Secondary Physical
Education in Alberta

ATTITUDE OF STUDENTS SAMPLE (N = 335)

TOPIC 12: ATTITUDE TO PARTNER ANALYSIS AND ANALYSIS SHARING.

The grade eight sample and the grade ten sample have been selected to represent the other respondents since the pattern of responses was virtually indentical amongst all grade groups.

There are three opinions commonly expressed regarding the analysis of a partner's physical education skills and the verbal and motorical sharing of such an analysis.

Opinion Cluster #1 - Such analysis will likely hurt their feelings. (N = 25)

Opinion Cluster #2 - Such analysis is often not possible since we don't know what to look for. (N = 30)

Opinion Cluster #3 - Such analysis is usually O.K. (N = 25)

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Conceptual Approach Study
in Secondary Physical
Education in Alberta

ATTITUDE OF STUDENTS SAMPLE (N = 335)

TOPIC 13: ATTITUDE TO PARTNER ANALYSIS AND REASONS FOR THE ATTITUDE.

SUMMARY OF RESPONSES:

Yes, I see a benefit in partner analysis = 192

No, I see no benefit in partner analysis = 44

Main Reasons for Analysis Being Beneficial and Frequency:

(1) Your partner can do better after you've told him. (N = 46)

(2) You can sometimes see your own mistakes as you analyze. (N = 38)

(3) You help each other learn more. (N = 44)

Main Reasons for Analysis Being Considered Not Beneficial:

(1) You don't always know what to look for. (can't analyze)

(2) He has to learn himself and often doesn't react to what you say.

(3) Partner should request help first.

(4) You're cutting him down; he may not like results; may hurt his feelings; and the like.

As a Grade seven mentioned -- "When you figure it out for yourself you don't really forget it."

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Conceptual Approach Study
in Secondary Physical
Education in Alberta

ATTITUDE OF STUDENTS SAMPLE (N = 335)

TOPIC 14: ATTITUDE TO REMEMBERING SPORTS SKILLS FROM CONCEPTUAL APPROACH LESSONS.

SUMMARY OF RESPONSES:

Yes, I remember skills better = 265

No, I don't remember any better = 44

Examples or Evidences Related to Remembering about Skills

Selected Answers (common or clarifying examples):

Grade 6:

(1) How to make the most of distance with the racquet in badminton. (N = 4)

(2) You remember if you figure it out for yourself. (N = 17)

Grade 7:

(3) I remember to use a long lever instead of a short one in badminton.

(4) When we had the old way it was going in one ear and out the other; this way it is in your head because you thought of it.

(5) When I'm older I will remember longer because I figured it out.

Grade 8:

(6) It makes me remember and think distance gives me speed.

Grade 9:

(7) I sometimes forget skills if they aren't led up to.

P.E. 10:

(8) You always learn better when you participate in it yourself. (N = 4)

(9) I remember when to bump the ball on your arms because I figured it out.

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Conceptual Approach Study
in Secondary Physical
Education in Alberta

ATTITUDE OF STUDENTS SAMPLE (N = 335)

TOPIC 15: ATTITUDE TO WORKING WITH OTHER STUDENTS IN CONCEPTUAL APPROACH LESSONS.

Question: In this unit how much do you like working with other students?

	A lot less	A little less	Same as Before	A bit More	A lot More
Grade 6	0	0	3	3	37
Grade 7	3	2	12	6	40
Grade 8	4	1	20	18	44
Grade 9	0	0	10	8	9
P.E. 10	0	3	24	29	25
P.E. 30	1	2	8	5	7
Totals	8	8	77	69	162

Common Reasons:

(1) I find it is more fun. (N = 52)

(2) I like working with other people and helping each other out. (as long as our skills are similar) (N = 14)

(3) You learn more from them than yourself. (N = 35)

(4) Can compare each other since we're trying the same thing at the same time. (N = 9)

(5) You learn to work with other people and you gain friendships. (N = 21)

****

Conceptual Approach Study
in Secondary Physical
Education in Alberta

ATTITUDE OF STUDENTS SAMPLE (N = 335)

TOPIC 16: ATTITUDE TO UNLEARNED SKILLS SUPPOSED TO BE LEARNED (IN CONCEPTUAL APPROACH LESSONS)

There was some feeling of alienation amongst those questionned in situations where learning which was supposed to be accomplished was not. (N = 103) However, a large group (N = 190) indicated that they did not feel anything like alienation, simply indicating "I'll get it eventually anyway" or "nobody's perfect anyways". Of the statements made indicating some feeling of alienation towards unlearned skills the following are representative:

(1) Just feel embarrassed. (N = 14)

(2) You are considered dumb. (N = 12)

(3) I think I'll never get it or I'm the one who doesn't get it, but I really want to learn it. (N = 11)

(4) They only help the good ones and not the poor. (N = 6)

(5) Hurts my mark. (N = 2)

****

Conceptual Approach Study
in Secondary Physical
Education in Alberta

ATTITUDE OF STUDENTS SAMPLE (N = 335)

TOPIC 17: THE PURPOSES OF PHYSICAL EDUCATION FROM THE STUDENTS POINT OF VIEW.

(1) Purposes of Physical Education

Grade Six:

Commonly Stated:

(1) to keep fit (N = 31)

(2) to learn new games (N = 16)

(3) to learn about sports (N = 14)

(4) to learn to play well (N = 9)

(5) learn rules (N = 8)

(6) get to meet people (N = 8)

(7) exercise (N = 6)

(8) have fun (N = 6)

(9) learn to think for myself (N = 6)

Grade Seven:

Commonly Stated:

(1) to get into shape (N = 24)

(2) to keep me fit (N = 17)

(3) gain background in sports (N = 17)

(4) to learn new skills (N = 13)

Grade Eight:

Commonly Stated:

(1) to keep fit (N = 43)

(2) to learn new sports and games (N = 31)

(3) to learn new skills (N = 21)

(4) good sportsmanship (N = 20)

(5) fun (N = 14)

(6) think for myself (N = 9)

Grade Nine:

Commonly Stated:

(1) to become physically fit (N = 16)

(2) learn skills (N = 8)

(3) be a good sport (N = 9)

(4) learn games (N = 7)

P.E. 10:

Commonly Stated:

(1) to keep fit (N = 33)

(2) to learn new sports (N = 33)

(3) to get along with others (N = 12)

(4) to enjoy oneself (N = 12)

(5) to understand sports (N = 10)

(6) To control mind and body (N = 8)

P.E. 30:

Commonly Stated:

(1) to be physically fit (N = 11)

(2) to learn skills (N = 7)

(3) to enjoy sports (N = 6)

(4) to be a sportsman (N = 6)

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THE ATTITUDES OF STUDENTS TO EXPERIMENTAL LESSONS UTILIZING THE CONCEPTUAL APPROACH IN PHYSICAL EDUCATION IN ALBERTA SECONDARY SCHOOLS (1975)

PART B

SUMMARY OF STUDENTS ATTITUDES

(SPECIAL INTERVIEW SAMPLE)

N = 50

Two students from each class taught by pilot teachers were randomly selected by the table of random numbers method. The study recorded and analyzed twenty-five conceptual lessons. The classes utilized were those selected by the pilot teachers for the two day evaluation visit. Students selected, therefore, numbered roughly fifty and as it turned out, included grades six through high school grades.

The two randomly selected students were videotaped during the class, were interviewed by a study team member at the conclusion of the class and additionally, viewed their own performance on VTR during which time they supplied answers pertaining to their motor performance and their understanding of the concepts under study.

The following is a summary of the attitudes of these students to various aspects of the conceptual approach lessons and of their attitude and association with sport and physical activity. The interview atmosphere was usually informal and unhurried and the student explained his attitude and was encouraged to give examples and as much supporting clarification as possible.

(1) The attitude of the students interviewed to the <u>difference between conceptual approach lessons and other lessons</u> was that there was freedom to be self-directed, there was more detailed study and greater liklihood of better calibre play; there were more effective questionning strategies utilized; you thought more; there was an atmosphere of friendliness and fun in learning and help from teacher and partner; there was more pressure to learn: <u>and</u> you worked out more, practiced more, and played more. Of fifty students there were five who were negative to the approach and forty-five who were positive to this approach.

(2) Of fifty-four students interviewed on the topic of a new interest or increased interest as a "direct result" of the conceptual approach to teaching there were N = 31 who provided supporting statements to this effect. (15 example statements are provided in the Details of Attitude in the following section).

(3) Students often worked with each other in this approach to teaching and of the forty-eight students interviewed for this topic N = 30 stated they liked working with each other a lot better in this approach to physical education. N = 14 liked it a little better; and four students stated it was the same as before.

(4) The students interviewed liked the questions their teachers asked in 46/48 cases. The reasons stated were that the questions made you think; let you get involved and show feelings; and provided interest, caused alertness, and generally gave initiative.

(5) Conceptual Approach students who were interviewed expressed a positive attitude to modified games in N = 29 cases and a negative attitude in N = 11 cases. Modified games were seen to develop skill which made game play easier at a later date, to allow specified skill development without game tension and to give more game-like play. Some students preferred the regular way stating bad habits may result otherwise.

(6) The attitude of students to having their skills analyzed by teacher and/or a student was in favor of the teacher carrying out this function. The teacher would be able to help more since they are seen to know more and will make you think more as well as have knowledge of ways of helping you improve. Students are generally held to be too critical or too nice with each other. (N = 39/47) A few students prefer both student and teacher to analyze since two points of view were held to be superior to one, with the student pointing things out and the teacher more in the role of evaluator. As long as the student knows the skill or what to look for it's o.k.

(7) Although grade sevens and eights expressed a definite preference for their teachers to be demonstrators rather than non-demonstrators. Grade nines and tens both expressed as much preference for the teacher to utilize non-demonstration as demonstration. Grade tens slightly prefer non-demonstration by teacher. Students do not mind being called upon to demonstrate in 32/46 opinions, considering this good procedure when a student is proficient. In student demonstrations you try harder, the teacher sees and helps you and it often makes you look like you know something without bragging about it. Roughly one-third of students feel self-conscious about demonstrating and P.E. 30 students in particular are uneasy about demonstrating.

(8) Students generally don't prefer their teachers to use scientific or fancy terminology, reporting their teachers don't normally do so but if they do it is accompanied by explanations. Many felt that a certain amount of such usage was o.k. as in theory development, since the same terms can be understood if you go somewhere else.

(9) Physical education lessons are related to developing sports interest and participation. Students reported becoming interested and participating in fifty-nine sports in general; in seventeen sports away from school, and in twenty-eight intramural or interschool sports. These activities were reported by N = 46 students interviewed.

One-third of the special sample participate in interschool sports. Ten of sixteen of those participate in one sport and the other six in two or three sports. Basketball and volleyball are mentioned often. (see details)

Two-thirds of the special sample participate in intramurals. (N = 30) (see details)

Forty-seven of the total N = 48 interviewed participate in sports away from the school. (see chart in the following section)

(10) Of the three parts of the physical education program the most important part of the program to our interview students is class instruction (N = 34) while intramurals and interscholastic sports are second and third in importance respectively. (N = 7) (N = 4)

(11) The attitude of students to ways that physical education will help you after you leave school was consistent from grade to grade. All groups mentioned:

(a) Fitness to work, getting in shape and keeping in shape.

(b) To improve in various sports and learn sports for spare time usage.

Other benefits related to:

(c) Career field development.

(d) Learning to work with others.

(e) Enjoyment.

(f) Learning to help others in coaching and the like.

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CONCEPTUAL APPROACH STUDY

IN SECONDARY PHYSICAL

EDUCATION IN ALBERTA

PART B — DETAILS

ATTITUDE OF STUDENTS — SPECIAL SAMPLE (N = 50)

TOPIC 1: DIFFERENCES BETWEEN CONCEPTUAL TEACHERS METHODS AND STUDENT ACTIVITIES COMPARED TO PREVIOUS TEACHERS AND CLASSES

P.E. 10 and P.E. 30: (N = 24)

The following seven points were commonly mentioned:

(1) In this unit the teacher let you do it your way; that is more freedom and no statements such as do it this way or that way. (N = 6)

(2) Generally more detailed study of skills; was slower but more information on how to play; showed techniques; a lot better because of better calibre of playing knowledge; you develop to be a better player; depth of learning much greater --this further work on sports gives us more techniques which can be transferred from activity to activity. Also strategy. (N = 7)

(3) Asks lots of questions about skills to be learned and this makes it easier to remember. The why of doing things was always explained. Made you think more. More exact in explanations; more reference to other sports especially terms; analogies.

(4) Does not tell you that you're doing something wrong; more individual teaching style helps you a lot individually; I like it more now - more fun - more time to learn; a friendly atmosphere for learning; you work and help your partner and she helps you; we're not just trying things out without help.

(5) More is expected of you individually; more pressure to do things correctly; you are working at your own style.

(6) Let you workout more, play more, and practice more.

(7) It's not how well you play, it's how you play. You improve even if you aren't good.

GRADE 7, 8 and 9 (N = 22)

The following six points were commonly mentioned:

(1) Lets us figure it out for ourselves; not ordering us around; do activities on your own and treats us like we're bigger (grade six); build up your knowledge more yourself.

(2) More detail about things and a better method, basics stressed-better for skills; shows us more ways (N = 7).

(3) Asks more questions; stops class to point out mistakes; easier the way she explains it.

(4) Used to tell you what you did wrong in other units; helps more; gives you self-confidence; teacher doesn't get upset if you do something wrong; teacher is more open; lots more fun - you do more - not ordering us around; you get to talk to others which helps you; lot more people like it this way.

(5) More physically demanding.

(6) He doesn't make you challenge others, you challenge yourself.

Negative Comments:

Of the fifty special sample students who were interviewed and responded to the detailed questionnaire there were very few indeed (N = 5) who perceived the approach under study to be negative or the same as previously. The few responses recorded were as follows:

(1) Not really any different (Gr. 10)

(2) It's long - it drags on - prefer the way it was taught previously (i.e. quickly) (Gr. 8)

(3) Same as usual (Gr. 8)

(4) Takes longer to learn how to play (Gr. 8)

(5) Played regular game last year (Gr. 8)

Conceptual Approach Study
in Secondary Physical
Education in Alberta

ATTITUDE OF STUDENTS SPECIAL SAMPLE (N = 50)

TOPIC 2: NEW INTEREST OR INCREASED INTEREST IN A SPORT OR ACTIVITY AS A "DIRECT RESULT" OF TEACHER'S NEW WAY OF TEACHING PHYSICAL EDUCATION

Number of supporting statements made = 31
Number of students interviewed = 54

Note: Students who participated in a questionnaire - interview were asked to indicate sports and activities and/or incidents, experiences, or feelings that were felt to be a direct result of their teachers new way of teaching physical education. The students were encouraged to compare the method of instruction under study with other teachers they had been taught by (in most cases students could compare teachers in this manner although a few had the same physical education teacher for a number of years).

The statements are direct quotes from students and are grouped in relationship to their content.

(1.0) Learning in Physical Education

Regarding this new way of teaching physical education:

1.1 "Volleyball has advanced my skills in badminton and in wrestling in stance and attainment of power."

1.2 "In volleyball I improved my set -- also learned to not go into games so quickly -- I learned skills better before playing the game."

1.3 "I pay more attention to the class because of the way he teaches. He is talking about fundamentals and not spoon feeding you. He is not telling you what to do."

1.4 "I like the way he is teaching basketball -- the method and the warmups are good."

1.5 "Got to learn more about basketball."

1.6 "The way she taught it made it seem a lot easier - especially basketball and gymnastics."

1.7 "In paddleball we have applied things such as the way you hold racquets and projection angles."

1.8 "In volleyball I spiked 3 or 4 in a row and I really felt good -- and I wanted to play harder."

1.9 "In badminton -- set up an experiment and I liked this."

1.10 "Badminton -- now I am more interested because I know how to play -- before I didn't know what it was all about."

1.11 "The way he teaches -- you figure out things like holding the badminton racquet."

1.12 "Clearing -- by the new way he taught you the important things. Also in volleyball I learned how to spike by the new method."

1.13 "Badminton appealed to me and I learned to do it well."

1.14 "Volleyball -- setting the ball - learned how to do it well."

1.15 "Basketball - setting up the offense and defense is more interesting because he shows us how to do it."

1.16 "I have always liked volleyball - but even more so now because I know how to play properly."

1.17 "I like the way volleyball is done - I learned a lot."

1.18 "I learned quite a bit in the last volleyball class about the importance of the legs."

1.19 "Tennis -- the instruction is a lot better and you get more details."

1.20 "I improved, I worked very hard and I learned skills pretty good. I have gained a lot from this class -- much more than I learned in physical education for a long time."

1.21 "I improved and enjoyed physical education -- it was worthwhile and I feel the way we were taught and encouraged helped us more than other times."

1.22 "I picked up activities well and found there is a lot more to games than play any way to win -- I only learned because I had a very good instructor."

1.23 "I have learned more this year than any of my junior high or senior years -- everyone really put forth this year."

1.24 "I used to hate physical education but now since I was lucky enough to get my teacher I have really learned to appreciate skills you have taught us."

1.25 "I enjoyed it and wished it had lasted longer."

(2.0) Social-Emotional Atmosphere

2.1 "Teacher relaxed you and then I learned how to do it and because I could do it I wanted to play."

2.2 "The freedom is good. I liked basketball - it isn't as boring."

2.3 "It's fun and it's not difficult to play."

2.4 "In volleyball I went out for the team in Grade 10 also I learned to keep balance better. I liked the idea that kids who had difficulty were helped by others."

(3.0) Team Membership or General Interest

3.1 "Fitness -- it was our own choice to do your own program of fitness.

3.2 "In basketball the different way of teaching generally made me more interested."

Conceptual Approach Study
in Secondary Physical
Education in Alberta

ATTITUDE OF STUDENTS SPECIAL SAMPLE (N = 50)

TOPIC 3: ATTITUDE TOWARDS WORKING WITH OTHERS IN THIS NEW APPROACH TO LEARNING

(1)

Like a lot better =	30
Like a little better =	14
Same as before =	4
Little less =	0
Lot less =	0
N =	48

(2) The commonly stated reasons for liking working with other students a lot better were:

2.1 You can help your partner and they can help you; it's easier with your friends, mistakes of a partner can be applied to yourself as well as helping friends;

2.2 You find out what your're doing without being offended; you don't get hassled if you can't do the activity; and you don't get laughed at if you can't do the activity.

2.3 Enjoy sports more.

2.4 Used to be the team thing so friends and enemies but now friends with rest of class, seem to get along - no competition just learning with other people.

Other points were:

2.5 Makes you try harder because you can compare yourself with your friends.

2.6 Work with each other doing experiments.

2.7 You show what you have interpreted the question to be rather than having teacher show you.

2.8 Get to know other peoples ideas and get to put them together as in game plays.

2.9 Students are better sports in helping each other out.

(3) The commonly stated reasons for liking working with others a little better were similar to those indicated above (2.1 - 2.4) centered around fun, friends, and learning through friends and working closer to people.

(4) The four students who ranked this item "the same as before" stated:

4.1 depends on partner -- a good partner will help you more than a lousy partner.

4.2 Play games - just about the same.

4.3 I like to do the same as other p.e. classes.

4.4 No real difference.

Conceptual Approach Study
in Secondary Physical
Education in Alberta

ATTITUDE OF STUDENTS SPECIAL SAMPLE (N = 50)

TOPIC 4: ATTITUDE TO TYPE OF QUESTIONS TEACHER UTILIZES AND REASONS

Distribution: Likes Teacher Questions = 46
Dislikes Teacher Questions = 2

Common Responses (Why do you like your teacher's questions)

(1) The questions make you think. (N = 21)

(2) Gives you confidence; you can show your feelings without being afraid to be wrong; asks doesn't order; doesn't expect you to know everything; if we make mistakes he (teacher) doesn't laugh at you. (N = 8)

(3) You pay attention because it makes it more interesting and involving; alert; gets you into it more; gave us initiative; you think more which helps you play better and so you care about how you perform. (N = 7)

(4) Involves you with other people; Examples = Uses people as examples and then figures out their own style through questions; you learn from others answers; you problem solve with a partner. (N = 6)

(5) Helps you personally, Examples = You can show that you can do what teacher asks; you realize what you're supposed to be doing; learn on own; helps you remember answers about concepts; introduces a new technique in a specific manner -- you can practice and learn it; you perform on your own (own decisions); educational -- learn about sports; tells us to do it then asks us if its right or wrong. (N = 11)

Dislikes About Questions (N = 7 Statements) (Two students disliked questions while five others mentioned some dislikes)

(1) Teacher has already gone over it; sometimes doesn't get through to you; boring; takes longer; don't understand; not detailed enough; doesn't require thinking; confusing.

Notable response:

"It draws the answer out of you; makes you know the answer and realize what you're supposed to be doing."

Conceptual Approach Study
in Secondary Physical
Education in Alberta

ATTITUDE OF STUDENTS — SPECIAL SAMPLE (N = 50)

TOPIC 5: ATTITUDE TO MODIFIED FORMS OF GAMES THAT ARE USUALLY PLAYED IN THE REGULAR WAY

Distribution of Responses:
Positive = 29
Negative = 11
Neutral = 2

Common Responses: (Positive):

(1) I like them because it helps develop skill, strategies -- the skills make the game to be played later easier, helps in game situations, better in learning techniques.(N = 24)

(2) You get one part of the game down at a time; get used to one skill -- don't have the tension of winning the game.(N = 3)

(3) It's good because there is more time to play; more game play; get a chance to do something; in a team game everyone participates and you don't get as much chance to play. (N = 6)

Common Responses: (Negative)

(1) The regular way is the right way. (n = 2)

(2) Dislike modified games - don't like using lower badminton nets for volleyball - prefer higher nets and play a game; it gives bad habits if you are used to regular games. (N = 2)

Special Response:

(1) Don't like modified games -- you have to play the real thing at college. (Grade 6 response, Medicine Hat)

Conceptual Approach Study
in Secondary Physical
Education in Alberta

ATTITUDE OF STUDENTS — SPECIAL SAMPLE (N = 50)

TOPIC 6: PREFERENCE FOR THEIR SKILLS BEING ANALYZED BY TEACHER AND/OR FELLOW STUDENT

Distribution of Responses:	Teacher =	39
	Fellow Student =	4
	Both =	4

Common Responses (Teacher):

(1) Teacher will be able to help more; he knows more. (N = 34)

(2) Teacher will make you think more and your friend may not know what she is talking about. Also teacher knows the better ways of helping you improve. (N = 5)

Others (Teacher):

(1) Students are too critical or too nice and they aren't really fair in evaluating.

Common Responses (Student N = 4):

(1) You can talk to friends better than teacher; don't feel as dumb if partner helps you; more at your level and not picky; he doesn't put you down -- but the teacher doesn't very often either. (N = 4)

Common Responses (Both)

(1) When you play against a student he can help you and the teacher can watch and help you. Two points of view are better than one. A student can point it out but a teacher can act more as an evaluator. (N = 3)

(2) If student knows the skill then its o.k.
Note: the only grade group indicating that both teacher and student should be involved in the analytical process was the Grade 10 group. However, the question did not accurately probe for a both response rather than a teacher or student response.

Conceptual Approach Study
in Secondary Physical
Education in Alberta

ATTITUDE OF STUDENTS SPECIAL SAMPLE (N = 50)

TOPIC 7: TEACHER AS DEMONSTRATOR,
NON-DEMONSTRATOR,
OR BOTH

Preferences:

1.1 Approximately 50% of the students interviewed preferred teacher as a demonstrator. Grade sevens and eights expressed a definite preference; however, grade nines and tens both expressed as much preference for the teacher to utilize non-demonstration as demonstration.

1.2 Fifteen percent of students preferred teacher as a non-demonstrator.

1.3 Thirty percent of students preferred teacher to utilize both demonstration and non-demonstration. Grade tens interviewed were the only group who did not prefer teacher as a demonstrator but rather indicated a slight preference for teacher to utilize both demonstration and non-demonstration as opposed to demonstration.

Reasons:

1.4 Demonstrate

1.41 (Most commonly stated) Skill is clearer, easier to understand, gives an idea etc. all making learning easier.

1.42 You learn more; good for difficult things; good for specific details; if not getting it - it helps; after seeing it you develop new methods on your own; teacher knows more - shows it better; prefer at beginning of skill; you learn faster and its better to watch with an explanation.

1.5 Non-demonstrate and Demonstrate

1.51 (Most commonly stated) Listening and figuring it out is O.K. but if further help is needed then it is good to have a teacher who can demonstrate and help. With a demonstration you see what to do but with a non-demonstration you learn more from your own mistakes.

1.52 It depends upon the activity -- if you're on your own such as in fitness activities or a sport such as badminton is a good non-demonstration activity whereas in volleyball demonstrations are good.

1.53 A bit of demonstrating is best but with lots of time for practice. Always demonstrating would be boring.

1.6 Non-demonstrate

1.61 (Most commonly stated) In the non-demonstration way you get to think for yourself and it's easier to acquire and remember skills; it makes you analyze it yourself; it's easier to understand what to do when you talk about it; you don't try to imitate the teacher or another person.

1.62 You work at your own capability not everybody elses; you get more benefit; gives you a chance to form your own opinion and try it out yourself; more chance for self-practice.

1.63 It's fun because you learn from your own mistakes; especially good at the end to work with other students.

Conceptual Approach Study
in Secondary Physical
Education in Alberta

ATTITUDE OF STUDENTS SPECIAL SAMPLE (N = 50)

TOPIC 8: ATTITUDE TO TEACHER USE OF SCIENTIFIC OR FANCY TERMINOLOGY

(1) Teacher doesn't use much (N = 6); doesn't make much difference. (N = 9)

(2) Sometimes teacher uses but they always explain. (N =9)

(3) Don't like it -- there's none in our class - and shouldn't be used in physical education. (N =9)

(4) It was O.K. because I understood it; some theory is O.K. but mainly practice of skills; it's good because we'll know them; the same terms can be understood if you go somewhere else. (N = 9)

Conceptual Approach Study
in Secondary Physical
Education in Alberta

ATTITUDE OF STUDENTS SPECIAL SAMPLE (N = 50)

TOPIC 9: ATTITUDE TO BEING CALLED UPON TO DEMONSTRATE

Distribution of Responses: Like Being Demonstrator: 32
Dislike Being Demonstrator: 14

Common Responses (Like):

(1) Yes, it's O.K. if I'm proficient. (N = 14)

(2) Doesn't matter you do it when everybody else is doing it anyway. (N = 3)

Others (Like):

(3) You try harder because you are in front of everybody, helps others learn, teacher will see and help you.

(4) Harder to learn because you don't see.

(5) Makes you feel good; it makes you look like you know something without bragging about it.

Common Responses (Dislike):

(1) Self-conscious; embarrasses me; I'm chicken; first one to do it and you'll flub it; nervous and they'll laugh (N = 9). (Note: Physical Education 30 students feel particularly uneasy about demonstrating in front of their peers).

Conceptual Approach Study
in Secondary Physical
Education in Alberta

ATTITUDE OF STUDENTS — SPECIAL SAMPLE GROUP (N = 50)

TOPIC 10: SPORTS INTEREST AND PARTICIPATION RELATED TO PHYSICAL EDUCATION CLASS EFFECT

Question - Can you mention any sports that you became interested in because of your physical education classes?

CATEGORIES:

I SPORTS IN GENERAL
II SPORTS (now) PLAYED AWAY FROM SCHOOL
III SPORTS (now) PLAYED INTRAMURALLY OR INTERSCHOLASTICALLY

I	General: (59)	Badminton	(9)	Weight Lifting	(1)	Snowshoeing	(1)
		Floor Hockey	(1)	Bordenball	(1)	Hiking	(1)
		Tennis	(6)	Handball	(2)	Fitness	(1)
		Volleyball	(8)	Track & Field	(1)	Paddleball	(6)
		Gymnastics	(3)	Soccer	(2)	E. Handball	(2)
		Basketball	(9)	Wrestling	(3)	Bowling	(1)
		Swimming	(1)	Dancing	(1)		
II	Away from School: (17)	Basketball	(4)	Swimming	(2)	Archery	(1)
		Football	(1)	Volleyball	(1)		
		Badminton	(1)	Skating	(1)		
		Soccer	(1)	Tennis	(1)		
		Skiing	(3)	E. Handball	(1)		
III	Intra-mural Interschool (28)	Basketball	(9)				
		Volleyball	(10)				
		Floor Hockey	(2)				
		Badminton	(4)				

Conceptual Approach Study
in Secondary Physical
Education in Alberta

ATTITUDE OF STUDENTS — SPECIAL SAMPLE (N = 50)

TOPIC 11: ATTITUDE TO INTRAMURALS, INTERSCHOLASTICS, AND CLASSES AND REASONS WHY

(1) Which of the three parts of the physical education program is most important to you and why?

Grade	7	8	9	PE 10	PE 30	TOTALS
Classes	4	5	5	17	3	34
Intramurals	1	1	0	2	-	4
I. Sports	2	3	0	1	1	7

(2) Classes as most important and why? (frequency = 34)

Commonly stated:

2.1 Teaches you how to improve your skills and that's where you learn. Learn what to do first.

2.2 I don't participate in the other two. No time for others.

2.3 Need for a high school diploma; marks are important

(3) Interschool sports as most important and why? (frequency = 7)

3.1 You get to represent your school and help them win.

3.2 You learn more.

3.3 Have experience of playing another school, see how they play, and can show good sportsmanship.

(4) Intramurals as most important and why? (frequency = 4)

4.1 Not good enough for interschool.

4.2 Get to play with others in other classes.

(5) Which of the three parts of the physical education program is least important to you and why?

Grade	7	8	9	PE 10	PE 30	TOTALS
Classes	2	1	-	-	-	3
Intramurals	1	4	2	8	1	16
I. Sports	2	2	1	11	2	18

(6) Interscholastic sports as least important and why?

Commonly stated

6.1 Don't like it that much.

6.2 In Intramurals you participate -- in sports you don't get a chance. It's for super athletes.

6.3 Too far away from home or no time for it.

6.4 Never had the opportunity.

(7) Intramurals as least important and why?

7.1 You don't learn much in intramurals (no incentive no skilled games)

7.2 Better to compete against good athletes, or teams in other towns, better to go out for school team.

Conceptual Approach Study
in Secondary Physical
Education in Alberta

ATTITUDE OF STUDENTS — SPECIAL SAMPLE (N = 50)

TOPIC 12: INTERSCHOOL SPORTS PARTICIPATION;
INTRAMURAL SPORTS PARTICIPATION;
SPORTS PARTICIPATION AWAY FROM SCHOOL.

Interschool Sports

Non Participants = 32
Participants = 16

SPORTS

Grade 6	- Hockey (2)
Grade 7	- Volleyball, Track (1)
Grade 8	- Basketball (3)
	- Basketball and Volleyball (1)
	- Basketball and Volleyball and Badminton (1)
Grade 9	- Basketball and Soccer (1)
Grade10	- Volleyball (3)
	- Football (1)
	- Track (1)
	- Basketball and Volleyball and Rugby (1)
PE 30	- Volleyball and Basketball and Badminton (1)

Intramural Activities

Non Participants = 18

Participants = 30

Grade 6	- Basketball	(1)
Grade 7	- Basketball	(5)
	- Volleyball	(4)
	- Floor Hockey	(2)
	- 50 Mile Club	(1)
Grade 8	- Basketball	(5)
	- Volleyball	(4)
	- Badminton	(2)
	- Football	(1)
	- Floor Hockey	(1)
	- Track	(1)
Grade 9	- Basketball	(2)
	- Volleyball	(2)
	- Badminton	(2)
Grade10	- Volleyball	(10)
	- Basketball	(6)
	- Badminton	(3)
	- Floor Hockey	(7)
	- MurderBall	(1)
P.E. 30	- Floor Hockey	(2)

Sports away from School

Participants = 47

Non Participants = 1

	Gr. 6 N = 4	Gr. 7 N = 6	Gr. 8 N = 9	Gr. 9 N = 5	Gr. 10 N = 18	PE 30 N = 4	Total
Hockey	4	2	4	2	9	1	22
Skiing	1(DH)	2(DH)	0	1(DH)	5(DH) 2(CC)	1(DH) 2(CC)	14
Skating	0	[illegible]	0	0	2	0	5
Curling	0	1	0	0	0	0	1
Hiking	0	0	1	1	3	0	5
Camping (Family)	0	0	0	0	1	0	1
Snowshoeing	0	0	0	0	1	0	1
Ice Fishing	0	0	0	0	1	0	1
Baseball	2	2	7	4	5	0	20
Cycling	0	1	0	0	1	0	2
Tennis	0	0	0	1	4	3	8
Soccer	2	1	1	2	1	0	7
Swimming	1	4	2	0	9	2	18
Water Skiing	0	0	0	0	1	0	1
Football	1	2	6	2	7	3	21
Rugby	0	0	1	0	0	0	1
Lacrosse	0	0	0	0	1	0	1
Judo	0	0	1	0	0	0	1
Boxing	0	0	0	0	1	0	1
Basketball	1	2	0	0	4	1	8
Badminton	0	2	0	1	2	1	6
Riding (Jumping)	0	1	0	0	0	0	1
Racquetball	0	0	0	0	1	0	1
Squash	0	0	0	0	0	1	1
Volleyball	0	0	0	1	1	0	2
Weight Lifting	0	0	1	0	1	0	2
E. Handball	0	0	0	0	0	1	1
Canoeing	0	0	0	0	1	0	1
Hunting	0	0	0	0	1	0	1
Mountain Climbing	0	0	0	0	2	0	2

Conceptual Approach Study
in Secondary Physical
Education in Alberta

ATTITUDE OF STUDENTS SPECIAL SAMPLE (N = 50)

TOPIC 13: ATTITUDE TO WAYS IN WHICH P.E. WILL HELP AFTER YOU LEAVE SCHOOL

(1) Is physical [illegible]tion going [illegible] lp you?

Yes = 43
No = 2
Undecided= 1

(2) Ways in which physical education will help according to P.E. 30 students.

Commonly stated:

2.1 Learn sports that have lifetime use.

2.2 Play different sports you may never learn otherwise.

(3) Ways in which physical education will help according to P.E. 10 students.

Commonly stated:

3.1 Helps physically - exercise - fitness.

3.2 Learn to play sports for later use - don't sit around.

3.3 Career field.

3.4 Learn to work with others.

3.5 Enjoyment.

3.6 Learn how to help out and coach.

Other points of interests but not mentioned commonly:

3.7 Reduces fears such as fear in gymnastics I was initially afraid of.

3.8 I learned how to analyze my fitness level and figure out a program to use.

3.9 Lets me know my physical limits.

3.10 To put together ideas with other people - to communicate.

3.11 To be an intelligent fan.

(4) Ways in which physical education will help me according to grade nines.

Commonly stated:

4.1 Better fit to work.

4.2 Sports you can play outside of school - more enjoyable life through sports.

(5) Ways in which physical education will help me according to grades eights and sevens.

Commonly stated:

5.1 Healthier, better condition through fitness.

5.2 To be better in sports - to compete in higher competition to learn sports for spare time usage.

Other points of interest not mentioned commonly:

5.3 Helps to do work in a self-confident manner.

5.4 May help determine a future in sports.

5.5 To be able to help a friend who isn't good in something.

5.6 Won't help I'm not good enough in it.

Conceptual Approach Study
in Secondary Physical
Education in Alberta

ATTITUDE OF STUDENTS SPECIAL SAMPLE (N = 50)

TOPIC 14: ATTITUDE TO SIZE OF CLASSES

1. Some students prefer large classes although the majority of those interviewed preferred smaller groups. Some of their reasons are of interest.

2. Those who prefer large groups state:

   2.1 Better for team games; more games going on at once; you get to meet more people; you see more people doing things;get more versions of learning situations through experimentation; not afraid to ask questions in a large group.

3. Those who prefer smaller groups state:

   Very commonly stated:

   3.1 Teacher can't work as well with a large group; more personal; more time for you; teacher doesn't pick best students and concentrate on them; regular guys get very little attention; can't hear teacher as well.

   3.2 Don't learn as much; not as many trials available; not much room available; not much equipment available; more time spent organizing.

   3.3 You get to know people better in a small class.

   Other points of interest not commonly mentioned:

   3.4 Teacher can evaluate you better; some people fool around and distract others and it's hard for the teacher to get things across.

CONCEPTUAL APPROACH STUDY

IN SECONDARY PHYSICAL

EDUCATION IN ALBERTA

PART C ATTITUDE

End of Unit Sample = 200

TOPIC 1: Did you enjoy your Unit of Activity just completed?

Results		Yes	No
Mayerthorpe H.S. (soccer)	Gr. 8	26	6
	Gr. 9	19	2
Eastglen (basketball)	Gr.10	25	0
Hardisty (wrestling)	Gr. 9	20	8
St. Mary's (tennis)	Gr.10. 11, 12	7	0
Medicine Hat (badminton)	Gr. 7	27	0
	Gr. 8	16	0
Aberhart (basketball)	Gr.10	16	0
Crescent (volleyball)	Gr.10	4	0
Hardisty (swimming)		12	0
	Totals	Yes = 172	No = 16

TOPIC .: As a result of this unit would you pursue playing this activity out of school if the opportunity arose?

Results

Yes = 89
Maybe = 74
No = 30

TOPIC 3: Have your skills changed since elementary/ junior high that is, did your own skill levels improve?

Results

Yes = 169
No = 19

Examples:

(1) Skills have improved since we concentrate on them a lot more. (Students named several specific skills).

(2) Better control in ball skills and can manipulate the ball a lot better.

(3) Teamwork and tactical skills are better.

(4) Before--the object was to hit the ball, now the object is to place the ball and to put power into strokes.

(5) My skills are better--now I can challenge and still have a hope I can win.

(6) More emphasis on our skills and capabilities, shooting skills, coordination much improved, better ball handling and understanding of the game.

(7) I am able to project the ball further and harder.

TOPIC 4: In which areas did you notice the greatest improvement in your class?

Commonly Mentioned Responses

Soccer (Gr. 8, 9): Projecting or kicking; absorbing or receiving; class listened and understood better; games were better--more action--less using hands and the like.

Basketball (Gr. 10): Dribbling, passing layups, and ball control; in game situations and where teamwork necessary; less fooling around by class. Several no answers.

Wrestling (Gr. 9): Class skill level improved; takedowns; class cooperation.

Badminton (Gr. 7, 8): Class skill level, specifically clearing, spiking, racquet grip and basic movement; cooperating, getting used to others and listening to others;

Basketball (P.E. 30): All around games plans and strategy.

(Note: in several units of instruction the class members did not specify class improvements)

TOPIC 5: How was this unit of instruction different than others you have had?

Results
(N = 175)

Mayerthorpe (Gr. 8, Gr. 9): Did skills more before playing; we had to find out about skills; challenging; freer; not being told how; learned more; understanding was easier; you answer questions physically; we went slow; the teaching method was different;

(N = 8 no answer; N = 3 about same as before; N = 1 duller; N = 1 longer to learn skills because it was slow)

Eastglen (Gr. 10): Learned more about certain specific skills; progress at your own rate; less game time; learned on own; different teaching--but best for each of us; easier; took time to go through it very clearly; different; not spoon-fed;

(N = 4 no answer; N = 2 slow and boring, easy to lose interest or it wasn't any different)

Hardisty (Gr. 8, Gr. 9): More challenging and more fun; more time to practice with less (direct) instruction; self dependent; more explanation, demonstration; students as a teacher so gave us a chance to work it out ourselves; own levels; quick thinking necessary; easier to understand; and different but better.

(N = 2 not different; N = 3 no answer; N = 1 too much for technique)

St. Mary's (P.E. 30): More instruction which was better than usual; less time on competition and more time on basics and elementary aspects;

(N = 1 nothing different)

Crestwood (Gr. 7, 8): Learned more and instructions were taken step by step; often learned for self; it was slow and easy to understand; worked with others and helped others in the group; challenging; more movement; we could progress individually instead of as a class.

(N = 6 nothing different; N = 2 no answer; N = 1 slow and confusing)

Wm. Aberhart (P.E. 30): Challenging; hard work although interesting; increased instruction and increased thinking; instruction suited our needs; responsibility and some chance to lead.

(N = nothing different; N = 1 no answer)

Crescent Heights (Gr. 10): Wasn't the usual "how to" instruction rather an overall view of balance, coordination and techniques usuable in other sports; could experiment and prove skills to self; more communication between teacher and student; students taught selves through the teacher.

TOPIC 6: How did you find the instruction?

Mayerthorpe (Gr. 8)
(N = 94 Responses)

1.	Easy to understand	(N = 25)
2.	Challenging	(N = 23)
3.	Specific	(N = 14)
4.	Slow	(N = 12)
5.	Relaxed	(N = 11)
6.	Confusing	(N = 5)
7.	Too formal	(N = 4)
8.	Rushed	(N = 0)

Mayerthorpe (Gr. 9)
(N = 58 Responses)

1.	Easy to understand	(N = 15)
2.	Challenging	(N = 12)
3.	Relaxed	(N = 8)
4.	Slow	(N = 6)
5.	Specific	(N = 5)
6.	Rushed	(N = 5)
7.	Confusing	(N = 5)
8.	Too formal	(N = 2)

Eastglen (Gr. 10)
(N = 52 Responses)

1.	Easy to understand	(N = 23)
2.	Challenging	(N = 11)
3.	Slow	(N = 5)
4.	Relaxed	(N = 5)
5.	Specific	(N = 3)
6.	Confusing	(N = 2)
7.	Too formal	(N = 2)
8.	Rushed	(N = 1)

Hardisty (Gr. 9)
(N = 59 Responses)

1.	Easy to understand	(N = 16)
2.	Challenging	(N = 11)
3.	Specific	(N = 11)
4.	Relaxed	(N = 8)
5.	Rushed	(N = 6)
6.	Confusing	(N = 5)
7.	Slow	(N = 1)
8.	Too formal	(N = 1)

St. Marys (P.E. 30)
(N = 20 responses)

1.	Easy to understand	(N = 7)
2.	Specific	(N = 4)
3.	Relaxed	(N = 4)
4.	Slow	(N = 3)
5.	Challenging	(N = 2)
6.	Confusing	(N = 0)
7.	Rushed	(N = 0)
8.	Too formal	(N = 0)

Aberhart (P.E. 30)
(N = 45 responses)

1.	Easy to understand	(N = 14)
2.	Challenging	(N = 14)
3.	Relaxed	(N = 9)
4.	Specific	(N = 4)
5.	Too formal	(N = 3)
6.	Slow	(N = 1)
7.	Rushed	(N = 0)
8.	Confusing	(N = 0)

Crestwood (Gr. 7)
(N = 71 responses)

1.	Easy to understand	(N = 18)
2.	Challenging	(N = 18)
3.	Relaxed	(N = 14)
4.	Slow	(N = 9)
5.	Specific	(N = 6)
6.	Rushed	(N = 3)
7.	Confusing	(N = 2)
8.	Too formal	(N = 1)

Crestwood (Gr. 8)
(N = 40 responses)

1.	Easy to understand	(N = 12)
2.	Challenging	(N = 9)
3.	Relaxed	(N = 7)
4.	Specific	(N = 4)
5.	Rushed	(N = 3)
6.	Slow	(N = 2)
7.	Too formal	(N = 2)
8.	Confusing	(N = 1)

THE ATTITUDES OF STUDENTS TO EXPERIMENTAL LESSONS UTILIZING THE CONCEPTUAL APPROACH IN PHYSICAL EDUCATION IN ALBERTA SECONDARY SCHOOLS (1975)

PART D

INCIDENTAL EVIDENCE REPORTED BY PARENTS AND OTHER STUDENT ASSOCIATES

Twenty-six telephone interviews were carried out during the two day school visitations by the research team. The sources interviewed were family or close friends who would be in a situation of potential knowledge of a students attitude to their physical education.

The following questions were asked and the following information was supplied by those questionned.

AREA #1

Was parent or other associate aware of new, novel, or special physical education at the school?

Responses: Yes = 10
No = 13

AREA #2

Are you aware of any incidents or occurrences which are suggestive of a revitalized interest in physical education by your daughter/son?

Responses: Yes = 16/26

e.g. (a) Daughter has joined a sport group at school because of high respect for the teacher.

(b) Daughter said she was enjoying P.E. at school and told you so.

(c) Daughter got more interested in houseleague sport.

(d) Mother (a former P.E. teacher) and daughter discussed new approach to P.E. Mother wondered if it was too slow but daughter said "no, it was really good".

(e) Loves P.E. Staying at school a lot to help now.

(f) Son talks about P.E. a lot more.

(g) Son has mentioned P.E. a lot -- definite new interest in Volleyball.

(h) "Wayne likes P.E. more and said so....since he is learning a lot and not just getting games as in the past."

AREA #3

Purpose of Physical Education According to Parents

Parent #1

1. Strength and Conditioning development
2. Introduction to a wide variety of sports
3. Sports as important in family relationship

Parent #2

1. Playing together
2. Exercise programs

Parent #3

1. Enjoyment
2. Sportsmanship
3. Mental training
4. Learning about competition and role of winning and losing

Parent #4

1. Self confidence builder

Parent #5

1. Skills
2. Fitness

Parent #6

1. Self control in sports situations

Parent #7

1. Exercise program for bodily development (i.e. parent wants son to be bigger and stronger)

Parent #8

1. Basic skills in individual sports
2. Development of grace and other skills

Parent #9

1. Team sports - good coaches
2. Sports as a balancing aspect in life

Parent #10

1. Sport involvement
2. Activity which helps boys stay out of trouble

Parent #11

No response

Parent #12

Parents largely curtailed sports involvement up to this time

Parent #13

1. Getting fit is the key thing
2. Healthy attitude

Parent #14

1. Sportsmanship
2. Opportunity to do your best

Parent #15

1. Enjoyment
2. Skills
3. Fitness

Parent #16

1. Game situations and experience
2. Sportsmanship
3. Exercise programs

Parent #17

1. Sports
2. Feeling of getting along

Parent #18

1. Gives another interest besides T.V.
2. Something for all your life (lifetime sports)

Parent #19

1. Fitness
2. Weight training (also as a family at home)
3. P.E. needs to be rigorous
4. Explanations important for everything

Parent #20

1. Sports - great for kids

AREA #4

Does your son/daughter watch television sports and would you describe their viewing as analytical/ critical or purely for enjoyment?

Watches T.V. sport analytically/critically = 8
Watches T.V. for enjoyment (passive) = 9
Does not watch T.V. sport = 2

Problem and Methodology: (4)

Additional Focus: What are the pilot teachers opinions and problems in developing and teaching conceptual approach lessons?

Method: Informal discussion
Incidents mentioned
Questionnaire-Interview

Topics:

Teacher opinion of students attitude
Special problems of approach
Type of student related to approach
Turning on kids
Teacher type
Appropriateness of approach
Special units
Difficulties
Limits on fitness
Modelling
Portability of plans
Self analysis
Implementing the Guide
Guide - strengths, weaknesses
Students changes
Benefits
Ability to ask questions
Evidence of transferability of concepts
Teaching Style
Analyzing skill
Level of usage
Planning
Time committment
Equipment utilization
Learning resources
Testing conceptual understanding
Individualizing
Program variety
Helpful rating of Guide
Resources required to teach approach
Support lacking
Class sizes

CONCEPTUAL APPROACH STUDY IN SECONDARY PHYSICAL EDUCATION IN ALBERTA

PART A

Teacher Attitude and Opinion to Conceptual Approach Lessons

Teacher Perception of Student Attitude:

1. What is the attitude of your pupils to applying the conceptual guide ideas as they do activity in classes?
   LIST THE MOST COMMON ATTITUDES.

Teacher Responses:

Students totally involved in class (A).
Willing to try (F)
More skilled students wanted more direction (F)
Less pressure than direct method - greater participation (F)
Unusual to start a unit without the object (G)
When do they play the game? (G)
Most students make a real effort to apply these ideas. There is a number of students who tend to get carried away with the activity and return to a method that is natural for them. I find that when I work with them as individuals they are easier to correct because the background experiments have proven to them that there is a reason for change (P)
The students are involved physically and mentally in the activities; therefore, they show keeness and interest. Even though a child's movement capacity may not let her produce skillful movement she still is aware intellectually of what skills and movements are required in an activity and she understands what she can do herself to achieve these skills - she has thought through the activity as it applies to her (S)
Many like the discovery approach (T)
Students enjoy solving tasks (T)

Least Common Attitude

Teacher Responses:

Boredom by highly skilled student (F)
This is wasting a lot of time. Let's get on with the game - usually talented students (P)
Unwillingness to try - children will work at the activity at their own level - if they are underachieving (underestimating their skill) then I find I must coach them in such a way as to challenge them to greater skill development - individual help within the class setting (S)

Special Problems of Conceptual Approach Teaching:

2. What special problems have you had in working with conceptual guide teaching?

Teacher Responses:

There have been no major problems. However, the conceptual teaching method has taken many hours of preparation. This preparation would not take that long on repeating the unit (A)
Finding enough planning time to cover scope of lesson development (F)
Terminology is difficult for the first while (G)
Individualizing units so that students can progress at their own rate. This problem would decrease with time but I found it took a great deal of time to prepare lesson plans (P)
No special problems. I don't have a background in Kinesiology; however, I think there are many concepts in the realm of movement which must be understood in order for a human being to understand himself as a moving individual within the environment. Maybe the guide puts too much stress on Kinesiological concepts to the exclusion of other important movement concepts (S)
Typically, I taught the skill specifically with direct teaching. The jargon - I don't use it; it's a process I haven't gone through completely yet (T)

Appropriate Groups for Conceptual P.E. Lessons:

3. What kinds of kids doesn't the conceptual guide and its basic ideas work with?

Teacher Responses:

It works with most of my students. The only students it wouldn't work with are those who aren't willing to try to learn at all (A)
Highly skilled (F)
Highly skilled individuals (G)
Non-motivated individuals (G)
Highly skilled students - This is less so if these students can move at their own rate (P)
The kids all appear to be willing to participate. Some kids are willing to have things layed on them - to be entertained and not to have to think and if a child has come from this background or tends to be lazy - physically, intellectually or both - then she finds the conceptual approach a bit of a drag - boring. She would rather be told what motions to go through and then go through those motions without involving her entire self (S)
The hyperactive children - it takes time to explain the concepts and ask questions (T)

4. What kinds of kids are most turned on by conceptual guide teaching?

Teacher Responses:

The kids who want to learn about what they are doing (A)
Students who are not very athletically skilled or the student who doesn't want to push himself to any limits (F)
Low skill ability (G)
If the sport is totally new to them (G)

Average to low skilled - Non-motivated students do not react too positively but in my opinion react more positively than in a regular style (P)
The majority of kids (S)
Kids who like to think-to know the whys and hows-the cognitive variable (T)

Key Factors in Conceptual Teaching:

5. What are the factors most related to kids being turned on by conceptual guide physical education teaching?

Teacher Responses:

The main factor is whether the student is genuinely interested in learning game skills (A)
Types of questions asked (F)
Phrasing of teacher used in direction (F)
Less pressure on students to produce exactly the same results as everyone else (F)
Less direct explanations (P)
They experience a skill by themselves (without being told by teacher) (G)
Success is not limited to skill achievements. A student with poor co-ordination for example may be the first to discover the reasons or principles related to a skill (P)
Students seem to try harder because they have discovered for themselves the reason for doing something (P)
a) They are involved physically, intellectually and socially and to some extent (not all the time) emotionally in what they are doing rather than being a physically robot - e.g. the child knows why she can achieve a volley in volleyball by hyperextending the wrists, bending the knees etc. rather than being told to simply do this, this, and this and magically the ball will be volleyed (S)
b) The child has more opportunity to produce the skill at her level rather than having to copy someone elses skill at their level; therefore, the child experiences success at her level of ability. Success relates to confidence and enjoyment of what one is doing (S)

They feel like they really have learned something - a greater comprehension of the skill or activity (T)

Characteristics of Conceptual Teachers:

6. What kinds of teachers will make successful conceptual guide teachers?

Teacher Responses:

Teachers who are willing to adjust their methods (A)
Innovative flexible and willing; creative, concerned with change and how to stimulate students (F)
Those interested in kids with lower ability. (G)
Teachers that are not coaches (G)
Teachers who are not coach oriented (P)
a) Those who don't have to have everyone doing the same thing at the same time in the same way
b) Those who are willing to accept the child as a child - not a minature adult. Recognize that adult standards aren't to be imposed on children for if they are the child's skill development may be hindered. e.g. having the child play a major game before he has the physical, mental, and emotional capacity to handle the situation. A teacher who has an exceptional understanding of child growth and development (S)
Teachers who can break the sports and activities into concepts (T)
Teachers who really know the subject matter, the kids and the teaching strategies (T)

Appropriate Occasions for Conceptual Lessons:

7. There appear to be times when conceptual P.E. teaching is appropriate and times when it is less appropriate. Teachers just getting into this style would be assisted by a few examples of when this teaching is appropriate and inappropriate (over and above the obvious ones). Please list a few guidelines pertaining to this factor.

Teacher Responses:

Appropriate for strategy, less appropriate for rules (A)
Appropriate for average size classes, less appropriate for larger classes (A)
Learning new skills (F)
Breaking down complex activities (F)
Beginning units of activities (F)
Appropriate - introducing a new sport
teaching lower level ability kids
Inappropriate - teaching a kid with interschool level skills (G)
Appropriate - in the early stages of learning an activity. When working with those who realize that something is wrong with their game
Inappropriate - highly skilled level students (P)
Appropriate - any time there is a concept underlying what you are teaching
Inappropriate - for rules (S)
Appropriate for speed of teaching and learning - use direct approach
Inappropriate perhaps for areas of deep importance - use the conceptual approach - develop the foundation (T)

Difficulties in Planning.

8. What are the main difficulties in doing the detailed lesson planning required for lessons using the c-g approach to teaching P.E.?

Teacher Responses:

The appropriateness of the questions (A)
The planning (strategy or order) of the questions (A)
Time not allowed for curriculum development or planning in schools (F)
In areas where the teacher is not gifted it is hard at times to figure out exactly why a skill is done in a given manner. (This is great in that it requires the teacher to understand his subject.) (P)
It takes a great deal of time and often experimentation to figure out logical steps, questions, etc that will guide students to the concept. (P)
The writing down of objectives, but if you don't write down where you are going you don't have much check on whether you've got there (S)

You have to think differently - like we have a game plan - physically, emotionally, psychologically - you have to plan your classes conceptually (T)

Fitness Objectives:

9. Please comment--excessive time spent on conceptual guide teaching in P.E. limits the fitness objectives of usual P.E. programs!

Teacher Responses:

Limited only in the beginning stages. If students have to work things out for themselves, they can become active enough (A)

No-your warm-ups are often used as concepts learned. e.g. shuffle in basketball (G)

No. The conceptual approach only replaces the instruction portion of your class and as concepts build, teaching time is shortened (P)

Fitness objectives are not limited in fact they were enhanced in my grade 10 class (S)

No reason for this-it just depends upon how you allot your time. The conceptual approach refers to your teaching strategy not your class plan (for time) (T)

Modelling:

10. Please comment--skill development can be accomplished by modelling highly skilled performances---the solution or problem solving method can be rather wasteful of time and past development efforts.

Teacher Responses:

The original learning takes longer, but is more permanent. Therefore, less review is needed. In the long run, time is not wasted at all (A)

Modelling may be fine to utilize but students don't like being compared to others especially if they are not highly skilled nor do not have athletic abilities (F)
Problem solving - everyone works at own rate, less pressure on students, they all achieve and are doing activities (F)
It is much easier to model a highly skilled performance if you understand the concept first (G)
For the highly skilled athlete possibly. I don't believe that the same skill level is achieved by modelling (P)
Skill development may be accomplished by modelling highly skilled performance but what if the child does not have the skill to model that performance? In my opinion this sort of child wastes a lot of time in becoming frustrated and in learning that he or she simply is not good enough. Once you learn you are not good enough it doesn't usually take much more time for you to stop trying to do that activity. In the problem solving approach the child can solve the problem at his or her level and achieve satisfaction if the teacher will recognize the solution as the child's best effort for his or her ability (if indeed it is a best effort). I don't think time we spend with children in helping them to recognize their ability to think and to learn independently can ever be considered as wasted (S)
If you want a champion - provincial or national, you wouldn't use this approach but for the average student in a P.E. class it's quite appropriate and does allow for transfer and individuality. Although many skills are too complex to learn by modelling alone. i.e. Polevaulting must be broken down into parts (T)

Self Analysis of Teaching:

11. How far are you along the way to becoming a fully functioning "conceptual-guide" teacher, in your opinion?

Teacher Responses:

About half-way (A)
Nothing to compare my style to (F)
Should have opportunity to see others in action. i.e. video-tapes, etc. (F)
Just beginning (G)
Converted but a great deal must be done to re-organize myself in terms of preparation (P)

I think I must be developing my ability to conceptualize. Since I started on this pilot project I have noticed myself transferring concepts from one activity to another - the overarm throw operates on the same concepts as does the overarm serve in volleyball, as does the overhead clear in badminton etc. I have some difficulty conceptualizing in areas where my background is weak - Kinesiology. (S)
Just the beginning (T)

Implementing the Curriculum Guide:

12. Do you consider your way of implementing the conceptual guide approach different in any major or minor ways? (Briefly list the differences as you see them)

No (A)
Yes, I tried to make a model that has some logical sequences, rather than a bits and pieces approach (G)
Possibly my attempt to individualize (P)
My way of implementing the conceptual guide is probably different. I approach the concepts with a strong background in movement education, and thus many of the concepts I understand well are rooted in Laban's themes (S)
No, except I don't use the jargon (T)

Curriculum Guide: (Strengths and Weaknesses)

13. What are the strengths of the Guide as far as you are concerned? (i.e. did the guide turn you on or was it the guide plus something else? What else turned you on?)

Teacher Responses:

The Guide got me interested. A demonstration lesson with me as the student turned me on (A)
Far too lengthy to read and understand (F)
Would turn off many people (F)

I think that the Discovery method of teaching (kids know why they are doing something) is what convinced me (G)
Possibly my attempt to individualize (P)
The strengths of the guide
a) the emphasis it places on generalizations
b) the Kinesiological concepts it makes you aware of (S)
It focuses on the essential aspects (Concept) of the skill - the important part to aid the learning (T)

14. What are the weaknesses of the Guide?

Teacher Responses:

Teachers without a knowledge of kinesiology might have difficulty understanding the basics of the guide. Otherwise, there should be no difficulties (A)
Sectioning required far too much theory (F)
Far too lengthy (F)
Helpful hints needed for teacher to check his idea (F)
No sequencing model. Only a model giving you the concepts (G)
I would like to see some of it simplified (P)
The guide does not have a broad enough view of concepts which are important to man understanding himself as a moving being within the environment. i.e. There are more concepts to be dealt with other than the kinesiological ones (S)
The language is formidable for many - many expect it to be revolutionary - it isn't (T)

Student Changes:

15. How have students changed in the last few years?

Teacher Responses:

Students have become more aware of the benefits of sports and seem to want to experiment more in class. They like to find things out for themselves (A)
Less motivated or interested just for knowledge's sake (F)
Apathetic (F)
Wanting changes (F)

Not that far advanced in c.g. approach (G)
I have three years experience. I have noticed no major changes (P)
Students have become more knowledgeable in the last few years. T.V. has brought the world to their door - with knowledge comes awareness of others, of themselves in relation to others (S)
To me they don't seem quite as eager to learn - perhaps the knowledge explosion has discouraged many (T)
Also a contributing factor is the many other outlets besides school and learning (T)
The "do your own thing phenomenon" - peer pressure hardly endorses school and studying (T)
Education doesn't equate directly with $ or fame - not as appealing (T)

16. Do you agree that the ability to ask questions at various levels is critical to teaching with this approach? Why?

Teacher Responses:

Yes. The order of questions is important in order to develop the concepts properly (A)
Yes (F)
Yes (G)
Yes, concepts tend to build upon each other and if questions leave a gap in the sequence transition from one concept to another is difficult (P)
Yes, because it is the teacher's responsibility to ask the right questions in relation to the child's level of skill development so that the child will be challenged to develop her skill to the highest possible level in relation to the ability she has and in relation to her state of readiness. (S)
Yes to create curiosity and problem solving - not strictly psychomotor orientation (T)

17. Does the conceptual guide approach turn students on:

Teacher Responses:

Yes, I think it turns most students on (A)
Some of the students (F)
Some of them (G)
The majority (P)
Yes (S)
Some! (T)

18. Which groups seem to be most inclined to turn on to conceptual-guide approach teaching? (within grade levels and between grade levels)

Teacher Responses:

Lower grades seem to turn on more. Students who have not had success in P.E. before seem to turn on the most (A)
Average students or those with poorer skills (F)
Grade 10's. Haven't tried it with higher grades (G)
Lower grades (6-7) and average to poor students (skillwise) (P)
Within grade levels the children who are less capable physically seem to get involved in the activities; whereas, physical activity taught in the traditional style does not as readily allow the less capable children to experience success and satisfaction. Under the conceptual approach the child can experience intellectual success as well as physical success (S)
The younger Gr. 7 seem to handle it better than 8's and 9's who were used to traditional directed teaching style (T)

19. Which groups seem least inclined to turn on to conceptual guide approach teaching? (within grade levels and between grade levels)

Teacher Responses:

Higher grades seem to turn on the least. Students who are not willing to learn turn on the least (A)

Students with better than average skills "the jock", Grade XII's not too impressed (F)

High skill level. Probably (I'm guessing) grade 12's. (G)

Highly skilled - Older students find it harder to adapt to a new line of thinking (P)

The group that are less inclined to turn on to the conceptual guide approach teaching might be those children who want to get on with the game - I suspect they would be impatient with other approaches also. There are always children in a class who want to play now - they don't bother with the process of learning to play. I am referring to children who are socially ready to play major games - grade 9 and 10 students - but lack a background in physical education. I have found that children who have been taught games skills in the elementary school starting with individual activities in the primary years and developing through 1 with 1, 1 vs. 1, 1 vs. 2 and so on are not turned off in grade seven with the conceptual approach; however, grade nines who lack the strong elementary background and have not worked on skill development in their grade 7 and 8 years and who have not been challenged to think are not prepared to work on the process of skill development and the process of understanding the skill. They are not eager to work on the how, why, what aspect of physical activity. They want to play the game even if they don't have the fundamentals to play it well enough to experience satisfaction. However, as they begin to think and to understand the how, why, and what aspect of movement and as they begin to improve in their ability to play the game and as they relate this improvement to their understanding, there is a marked change in attitude towards physical education. (S)

Maybe top performers - the go getters - kids who hate to sit down - antsindiepants (T)

20. What evidences have you been able to observe that might indicate that concepts learned in one activity have carried over to other activities your students have participated in?

Teacher Responses:

Concepts developed in a volleyball unit were used to carry over in basketball and soccer units (A)
Students can move thru fundamentals at faster rate once they have worked their way thru progressions and have tried many variations and found the right way of doing a basic skill i.e. overarm throwing action (F)
Too early to tell (G)
Movement Concepts from volleyball carried over quite well (P)
Two examples that indicate that concepts learned in one activity carried over to other activities my students participate in include:
a) the concept of spacing and floor balance learned in floor hockey transferred to soccer and modified basketball.
b) the concept of transferring force through the body to a volleyball serve carried over to transferring force to a badminton shuttle cock when stroking it (S)
Students actually stating obvious principles (facts) and concepts that related from one area to another (T)
The ready position - they seem to understand body principles better - have ideas on how to - eager to try - i.e. "I think I know how" attitudes (T)

21. Do you have any additional comments on equipment and facility usage in this style of teaching that were not mentioned at the workshop?

Teacher Responses:

No (A)
Game tactics required in workshops (F)
No (P)
No (S)
No - perhaps structured facilities and equipment deter creativity, spontaneousness.... (T)

Teaching Style:

22. What are the main students decisions that you encourage in the teaching style you use in the conceptual approach?

Teacher Responses:

Some input into evaluation of teaching program at the end of the year (A)
Student input in class dev. and sequence (F)
Skill decisions by students (F)
Student solves the problem in any way comfortable for him (G)
Student problem solving. I do try and lead them to understand the best method. I think it important that skill not be sacrificed (P)
I encourage students to make decisions related to the question how, for example: "How can you get more power to serve the volleyball , to strike the shuttle, etc.?", and I encourage students to make decisions related to the question why, for example: "Why is it important to keep your eye on the shuttle as you serve it?". I also encourage students to make decisions related to where and when questions (S)
In the directed approach there isn't too many student decisions except under game conditions (T)

23. What are the main differences in student decisions that you encourage when you use a teaching style other than the conceptual guide approach?

Teacher Responses:

Corrections of errors by the teacher (F)
In conceptual approach students have greater input in analysis and corrections (F)
Student is taught the correct mechanics and follows teachers good judgement (G)
In the other methods, the main thing I encourage in decision making is that of trying to decide to try and learn (P)
I don't often use a style of teaching other than a conceptual approach (S)
In the directed approach there isn't too many student decisions except under game conditions (T)

24. Have you modelled your teaching style after somebody else's style? (List three types of models you presently use in order of greatest to least influence on your style).

Teacher Responses:

Model #1 (type) Andrea - conceptual style (last yr.)
Model #2 (type) Toyoda - VB coaching model (last yr.) (A)
Model #1 " Explore and discover with guidelines
Model #2 " Direct and correct (F)
Model #1 ")
Model #2 ") Motivational style such as after M. Smith
Model #3 ")
No, I can't really say. I use everything from command to guided discovery, depending on the concept I am dealing with. I also vary from full class instruction to individual instruction as the situation warrants (P)
Yes.
Model #1 Dr. Margaret Ellis, U. of A.
Model #2 Murray Smith, U. of A. (S)
Model #1 (type) Bob Newfelt - all around skill performer but academic
Model #2 " Murray Smith - conceptualist (command to discovery)
Model #3 " Clare Drake - command - but allows for some student problem solving (T)

25. How would you have answered the above question a few years ago?

Teacher Responses:

No specific model. Gerry Carr - track and field (A)
Direct (F)
Andrea for conceptual
Motiv. styles after M. Smith (G)
Command (P)
The same way (S)
The same (T)

26. Do you change your teaching style quite often from class to class or level to level? What are the key factors causing these changes?

Teacher Responses:

Change from activity to activity e.g. Basketball demonstration (A)
VB and Soccer - conceptual (A)
Yes, student and teacher boredom with lessons (F)
Allows for more flexibility (F)
Student levels are varied and require changes (F)
Different types of kids (G)
Yes - Age - Interest and ability (P)
No, I don't change the style of teaching. I make my classes more, or less challenging by the way I present the task and objectives I have for the students answering the task. I might present the same task to a grade 6 as I had presented to a grade 10 but I would present it to the grade six at his level of understanding and readiness. The objectives I had for the grade six would be less demanding than those for the grade ten (S)
1. Student needs 2. Student abilities)
3. Class character 4. The activity)
5. Time for unit (T)

Analyzing Skills:

27. What are the greatest difficulties you have encountered in analyzing an activity to get at the "big ideas" of the activity?

Teacher Responses:

Difficult in sports not too knowledgeable (A)
Breaking down the skill (F)
In many cases I have never understood the concepts myself (P)
The greatest difficulties I have encountered in analyzing an activity to get at the big ideas of the activity are:
a) to understand the kinesiological basis of the movement well enough myself to pass the understanding on to the children (S)
1. The activity may seem so natural - you want to say do it this way
2. Not knowing all the concepts (T)

28. Do you consider your students to be as skilled as you think they would be with traditional approaches to teaching P.E.?

Teacher Responses:

More skilled (A)
Probably the same level, more activity done with conceptual approach as they are trying various ideas and exploring (F)
Too early to tell. But I think they would be (G)
In Badminton - better (P)
I believe the physically less capable students are more skilled because they have been taught by the conceptual approach rather than the traditional approach. The physically capable child isn't held back in skill development with the conceptual approach and I don't know if she would be more skilled if she had been taught by the traditional approaches to teaching P.E. (S)
I use a variety of strategies - I feel my kids achieve a higher skill level because of that factor (T)

29. What evidence have you gathered to support motor skill development using the conceptual guide approach?

Teacher Responses:

Calibre of house league volleyball was much better
Observed by teacher and students (A)
Students achieved a level of skills with less pressure, more confident to try other activities (F)
Iniative --no testing--because a lot of emphasis on understanding and variety of applications (G)
Observation only. I have noticed a larger number of students trying to apply the concepts during intra-murals when no pressure is on them to learn (P)
I think that evidence to support motor skill development using the conceptual guide approach would need to be gathered over a long period of time; however, I believe the grade sevens I have taught for 7 years understand themselves as moving individuals within the environment. I suspect their level of understanding of movement concepts and their motor development is at least in part the result of conceptual approach teaching (S)
None - a gut feeling only (T)

30. Do you have any comments about skill development?

Teacher Responses:

If you understand why you should improve later (G)
If you understand, why it must be easier to learn how (P)
I suspect that the conceptual guide approach keeps children motivated to work on motor skill development for more years - in other words they are not discouraged from participating in physical activity as quickly as they might be with the traditional approach. Maybe this is a step to help encourage participating in physical activity through out life (S)
The concepts must be within the cognitive ability of the student (T)

Introducing the Style to Others:

31. What have you learned about developing this teaching style that may be helpful to those being introduced to this style (aside from the one big workshop comment - that it's only through blood sweat and tearsor the process of planning)

Teacher Responses:

I could work with others in the practical application of this approach (A)
Require video-taping sessions to see others in actions, styles, techniques (F)
Workshop - Let's find out if it's acceptable to upper skill level classes i.e. P.E. 30 i.e. lower skill no hesitation (G)
I can't see any other way than to go through a workshop or by working on a one to one basis within a school (P)
I believe that working with this teaching style until it becomes an extension of ones personality is helpful to anyone being introduced to this style of teaching, after this happens it requires no more planning than any other style (S)
I don't say its a new teaching style more subtly that its a useful device to assist learning (T)

Planning:

32. How much time have you devoted to planning for lessons in the conceptual guide approach to P.E. teaching, compared to other approaches? Are there any suggestions for shortening this time?

Teacher Responses:

First time around - twice as much. After that - the same (A)
Double time (F)
It's new and takes some time, but not any longer than when I started out teaching (G)
It has taken a great deal of time. Next time through however this will be greatly reduced. I think someone getting into conceptual teaching should enter it unit by unit and not try a total conversion at one time (P)
I have never really used any other approach so I have nothing to compare it to (S)
Know the subject area (T)

33. Did you spend significantly less time the second time you planned such a set of lessons?

Teacher Responses:

Yes (A)
Yes (F)
Yes (G)
Yes (P)
Yes (S)
Yes (T)

34. What are the advantages of such planning as far as you are concerned?

Teacher Responses:

Gives you more security and confidence (A)
You know the order of teaching (A)

Everything is preplanned, expansion of lessons much easier (F)
Not sure that you have to be that super planned once you know the basic of this method (i.e. know the model - know the skills (G)
My teaching is better because I have been forced to analyze each aspect of a skill (P)
As you plan and think through the whys of any activity you come to understand the activity. I think many teachers have been taught in their training the how of the activity but they don't understand the why (S)
I perhaps look at it from the learning point of view, more comprehensive teaching strategy (T)

Equipment:

35. What are the main advantages in equipment and space utilization in the conceptual guide aproach to P.E. as you see it?

Teacher Responses:

They learn to use space better (A)
All the equipment is used (A)
Various types of equipment, sizes of balls and types really don't matter (F)
Smaller spaces can be used i.e. badminton courts for volleyball courts, rope or badminton nets instead of regular equipment (F)
None (G)
None. In fact, it may require more equipment in some instances (P)
The main advantage in equipment and space utilization in the conceptual guide approach to p.e. is that you don't have regulation space or equipment to teach concepts, for example, you can teach a concept in any space so long as there is room, with any size ball, and if the child is learning to conceptualize he will transfer his understanding to a major game using regulation space and equipment (S)
None - if you use it with discovery learning a lot (T)

36. Are there significant reasons why "adult" game standards shouldn't be imposed on youngsters?

Teacher Responses:

Yes, Because in order to gain individual success there must be modifications in the games (A)
Competitive teacher vs. non competitive students (pressure too great for non athlete - they must succeed by achieving a certain level) (F)
If you mean at the elementary age there are very many significant reasons (G)
Yes (P)
Absolutely none (S)
Obviously (T)

Testing Conceptual Understanding:

37. Do you test for conceptual understanding or ability to transfer knowledge in your classes? How do you do it?

Teacher Responses:

No (A)
Yes - analysis of actions in other areas - re: checklist (F)
Not yet (G)
Not as yet (P)
I do not test for conceptual understanding in my classes (S)
Written exams
Create strategical situations - task problems (T)

38. What comments do you have about the statement that "the way skill is done is not important---let them get into a game situation"?

I disagree with this. If the skills cannot be done fairly well, the students will not find success in the game situation (A)
See if they know tactics and have understanding in game situations (F)

It has tremendous merit in that what is comfortable for one person will enable him to perform best (G)
I fail to see how a proper concept can lead to an improper skill. This does not mean that there is not some allowance for individual style (P)
I believe the way a skill is done is important to the extent that the child is producing the skill in the best possible way he can for his level of physical, intellectual, emotional and social development. Yes, let the child get into the game situation if he has the readiness for the situation. I think it is important to suit the game to the child's level of development remembering, for example, that his concept of soccer is not necessarily 11 vs. 11, he may be successful and satisfied with 5 vs. 5 soccer (S)
Because the skill must be internalized or personalized (T)

Individualizing:

39. Do students who get advanced well beyond the activity level of other students get turned off in p.e. because there is no peer pressure to spur them on?

Teacher Responses:

These students don't get pushed to their ability level (A)
Some do get turned off (F)
I don't know. I haven't reached that level yet in the junior high (P)
I don't know (S)
No because they're bored because the obvious challenge has disappeared (T)

Learning Resources:

40. What kind of materials or learning situations would have been of the greatest assistance to you for learning to teach p.e. in the conceptual guide manner?

Teacher Responses:

More demonstration lessons (A)
Seeing teachers develop lessons for junior and senior high and watch their classes (F)
Saw only Andrea's work - which was the discovery method (G)
Observation of several approaches as conceptual teaching it seems to me can be accomplished using everything from command to guided discovery (P)
Learning situations which would have been of assistance to me would have been sessions in various activities - badminton, basketball etc. which would have given me ideas of activities to use with the children which would help them in the process of conceptualizing (S)
To see a whole unit planned out (T)

41. What kind of support have you lacked or could you benefit from in developing your teacher ability in the c-g approach?

Teacher Responses:

More workshops (A)
Understanding of model (F)
No one else understood what I was doing (F)
Seeing more teaching by master teacher in this area I would like to see this approach with gifted athletes (G)
More contact with those involved in the approach (P)
The support I lacked was in the form of people who were interested and clued in to this approach so I could discuss with them teaching situations as they developed, and I would have appreciated knowledgable people observing more of my classes and discussing with them what was happening (S)
More watching and being watched (sharing) (T)

Conceptual Approach Workshops:

42. What materials, workshop themes, or other approaches could be used to "spread the gospel" amongst coach-teachers, traditional teacher-coaches, and others who are becoming interested in the c-g approach?

Teacher Responses:

Recruit well-known Alberta people to the c-g approach (A)
Mini-lessons, video-taping session, exchange schools with other teachers, teach their classes and compare (F)
Unless teacher training program changes, can it be shown that motivation is highly different (G)
Teacher Training Programs - Workshops (P)
Possible approaches that might be used to spread the gospel include: the clinic approach, example, Andrea might be able to give a clinic on volleyball using the conceptual approach as the method used to present the material. This might provide those in attendance with a repertoire of activities to use with youngsters which would help the youngsters to develop their motor skill and help them in the process of conceptualizing (S)
I'm the subject chairman-for the teachers convention (T)

A SUPPORT STUDY:

Title: A Comparison of the Cognitive Verbal Behavior of Secondary Physical Education Teachers.

Investigator: Daniel R. Cooney

Explanation: The study is of interest to the present study and the Department since a comparison will be used between the present group of pilot teachers and a randomly selected control group.

The study is not a part of the present study.

The study is being done by Daniel Cooney, Faculty of Graduate Studies, (Ed. C.I. Department) The University of Calgary.

The present investigator is the Adviser to this study.

THE RESULTS FOR THIS STUDY ARE INTEGRATED WITH PART I OF THIS FINAL RESEARCH REPORT

CONCEPTUAL APPROACH STUDY IN SECONDARY PHYSICAL EDUCATION

Product Development Theory Adopted for the Conceptual Approach Study

Johnson and Johnson[1.] have recently developed a well defined set of materials titled: TASK DESCRIPTIONS FOR DEVELOPING AN INSTRUCTIONAL PRODUCT., (UCLA 1974).

The educational product for the present study is of course the Conceptual Approach Curriculum Guide developed by the Physical Education Sub Committee for the Department of Education. Professor Andrea Borys of The Faculty of Physical Education of the University of Calgary has provided much of the direct input in the development to date.

From a product development point of view the tasks already completed by the Physical Education Sub Committee are PHASE I and PHASE II, as follows:

PHASE I: Prepare Specifications.
1. Define Target population
2. Identify Conditions and constraints
3. Develop Goal in Objectives

PHASE II: Design Prototype
1. Make design decisions (i.e. prepare prototype)
2. Pilot test phase*
3. Revise Product

(*completed by Professor Borys, 1973-74)

The product The Curriculum Guide was then used for the Workshops that the Pilot teachers participated in.

The present study is now into the PHASE III tasks commonly referred to as the initial field test phase. It is primarily concerned with collecting learner feedback, taking the term learners to include both teachers and students. The ultimate goal is to analyze data to make decisions for revisions and to end up with a revised product.

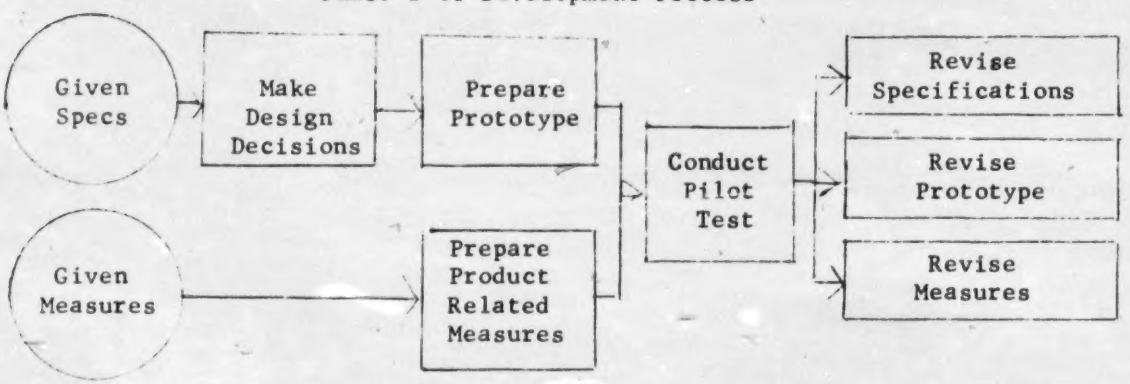
A number of product revision decisions were developed as well during the January Workshop (Calgary Regional Office) of the Sub Committee.

Phase 2: Development of Prototype Product, Pilot Test, and Revision.

The sets of specifications and measures guide the work of the second phase, which involves developing a prototype product for tryout with a small group (3 to 8) of the target population. The actual development process involves making a set of design decisions regarding the instructional sequence of objectives, the use of instructional principles, the media and mode of instruction, and then actually preparing a treatment structured by those decisions. The prototype product is tried with the small groups of learners to determine revisions required to make it a product usable by persons other than the developers.

Figure 3

Phase 2 of Development Process



This phase is completed when the prototype has been revised in the light of the data from the pilot test and any consequent revisions of specifications and measure have been made.

Phase 3: Developmental Field Tests of Product with Revisions.

During this phase, a more systematic field test of the product is conducted. This field test is conducted on larger groups of the target population. It seeks to determine how effective the product is for them, and where further revisions are required. This field test is generally carefully planned and executed. After the field test, a report is prepared, describing the results of the test and drawing conclusions as to the revisions required in the product. If necessary, additional field tests are conducted on the revised product.

(Johnson and Johnson, Task Descriptions for Developing an Instructional Product, UCLA 1974) (in preparation)

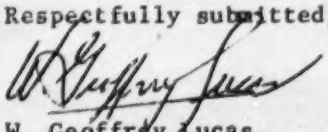
The field test just completed for the product "The Conceptual Approach Curriculum Guide" has produced substantial evidence which points to the conclusion of the Guide being an effective part of a guide-workshop-practicum-workshop cycle instituted by the Curriculum Sub-Committee for Physical Education of the Department of Education.

The Conceptual Approach Curriculum Guide appears to contain a number of effective features which may initiate a further involvement amongst teachers in conceptual approach ideas for instructional development. Because of the generally positive results of the field test it is concluded that the Curriculum Guide should be utilized in its present form in the majority of the sections it is composed of.

A number of suggestions for revision may be found in the section of the Final Research Report labelled Teacher Opinion (See Part IV).

Further revision specifications should be formulated at the workshop(s) to be held for the purpose of dealing with the findings of the final research report.

Respectfully submitted,



W. Geoffrey Lucas,
Principle Investigator (August, 1975)

APPENDIX

Pilot Teaching of Secondary Physical Education Using the Conceptual Approach

Intercommunication Address and Phone Number Sheet - January, 1975

Name	School Address	Home Address	Phone Numbers Office	Res.
C. M. Ward	500 Devonian Bldg. 11160 Jasper Avenue EDMONTON	14425 Summit Drive EDMONTON T5N 3T2	426-0915	452-4549
Hugh Twa	Hardisty Junior High 62 Street, 106 Avenue EDMONTON	6712 - 92 B Avenue EDMONTON, Alberta	469-0426	469-4611
Joanne Susut	Rimbey Jr.-Senior High RIMBEY, Alberta	Box 521 RIMBEY, Alberta	843-2353	843-2351
Arlene McGinn	St. Mary's Community School 18 Avenue S.W. & 1st E. CALGARY	3209 Carleton St. S.W. CALGARY, Alberta	265-3370	245-2710
Doug Hemstreet	William Aberhart H.S. 3009 Morley Trail N.W. CALGARY, Alberta	3023 - B 24th St. N.W. CALGARY, Alberta	289-2551	289-3647
Terry Archer	Mayerthorpe H.S. Box 270 MAYERTHORPE, Alberta	Box 382 MAYERTHORPE, Alberta	786-2624	786-2428
Leonard Parker	Crestwood School MEDICINE HAT, Alberta	22 Morris Court MEDICINE HAT, Alberta	526-3473	
Dale Forgus	Crescent Heights 1019 - 1 Street N.W. CALGARY, Alberta	6004 Thornbank Dr. N.W. CALGARY, Alberta T2K 3P5	276-5521	274-3952
Andrea Borys	School of Physical Education The University of Calgary CALGARY, Alberta	Apt. 1004 - 1330 - 15 Ave. S.W. CALGARY, Alberta		
Fred Gorgichuk	Eastglen Composite High School 11430 - 68 Street EDMONTON, Alberta	12211 - 41 Avenue EDMONTON, Alberta	479-1991	434-5447
Gene Torgunrud	10105 - 109 Street EDMONTON, Alberta	430 Evergreen Street EDMONTON, Alberta	229-3262	467-2111
Geoff Lucas	Office 124 School of P.E. University of Calgary CALGARY, Alberta	1002 - 30 Avenue S.W. CALGARY, Alberta	284-6471	244-0508

Area	School Address	Home Address	Phone Numbers: Office	Res.
Dan Cooney		1614 Crescent Road N.W. CALGARY, Alberta T2M 4B2		282-6645
K. E. J. McKenna	Regional Office Department of Education 332- 6 Avenue S.E. CALGARY, Alberta T2G 0G5	2620 Toronto Crescent CALGARY, Alberta	261-5026	289-1823
LeRoy Pelletier	Physical Education Department Catholic School Centre 300 - 6 Avenue S.E. CALGARY, Alberta	3408 Caribou Drive CALGARY, Alberta	264-1610	282-5734

FLORIDA TAXONOMY OF COGNITIVE BEHAVIOR

TOT												
T	P	T/	P	T/	P	T/	P	T/	P	T/	P	

1.10 KNOWLEDGE OF SPECIFICS

1. Reads
2. Spells
3. Identifies something by name
4. Defines meaning of term
5. Gives a specific fact
6. Tells about an event

1.20 KNOWLEDGE OF WAYS AND MEANS OF DEALING WITH SPECIFICS

7. Recognizes symbol
8. Cites rule
9. Gives chronological sequence
10. Gives steps of process, describes method
11. Cites trend
12. Names classification system or standard
13. Names what fits given system or standard

1.30 KNOWLEDGE OF UNIVERSALS AND ABSTRACTIONS

14. States generalized concept or idea
15. States a principle, law, theory
16. Tells about orgnztn or structure
17. Recalls name of prin, law, theory

2.00 TRANSLATION

18. Restates in own words or briefer terms
19. Gives cncrt exmpl of an abstract idea
20. Verbalizes from a graphic rprsntatn
21. Trans vrblztn into graphic form
22. Trans fln stmnts to lit stmnts, or vice v
23. Trans for lang to Eng, or vice versa

FLORIDA TAXONOMY OF COGNITIVE BEHAVIOR

TOT I	TOT II	TOT III	TOT IV	TOT V	TOT VI	
						3.00 INTERPRETATION
						24. Gives reason (tells why)
						25. Shows similarities, diffrncs
						26. Summarizes or concludes frm obs of evdnce
						27. Shows cause and effect rltnshp
						28. Gives analogy, simile, retaphor
						29. Performs a directed task or process
						4.00 APPLICATION
						30. Applies previous learning to new sitn
						31. Applies principle to new situation
						32. Apply abstrct knldg in a pretcl sitn
						33. Identifs, selects, and carries out process
						5.00 ANALYSIS
						34. Distngshs fact from opinion
						35. Distngshs fact from hypothesis
						36. Distngshs cnclsn frm stmnts wch suppt it
						37. Points out unstated assumption
						38. Shows interaction or relation of elements
						39. Points out prticlrs to jstfy cnclsn
						40. Checks hypthss with given info
						41. Dstngshs rel frm irrelvnt stmnts
						42. Detects error in thinking
						43. Infers prpse, pt of view, thghts, feelings
						44. Recog bias or propaganda
						6.00 SYNTHESIS (Creativity)
						45. Reorganizes ideas, materials, process
						46. Produces unique cmnctn, divergent idea
						47. Produces a plan, prpsd set of oprtns
						48. Designs an apparatus
						49. Designs a structure
						50. Devises scheme for classifying info
						51. Formulates hypothesis, intelligent guess
						52. Mks dedctns frm abstrct smbls, propostns
						53. Draws inductive generalizatn frm specifcs
						7.00 EVALUATION
						54. Evaluates something from evdnce
						55. Evaluated something from criteria

STANDARD DEVIATIONS

FOR COGNITIVE TAXONOMY

SCORES IN THE PRESENT STUDY

Experimental Group

	Teacher	Student
Overall	3.97	8.48
1.1	0.96	2.50
1.2	2.63	5.13
1.3	2.27	2.26
2.0	1.59	2.25
3.0	3.66	6.94
4.0	1.50	2.03
5.0	3.52	5.94
6.0	2.01	-
7.0	1.20	0.78

Control Group

	Teacher	Student
Overall	4.61	6.01
1.1	0.53	3.81
1.2	3.47	2.96
1.3	1.37	1.22
2.0	0.99	1.78
3.0	1.88	3.06
4.0	1.33	1.39
5.0	3.31	2.05
6.0	-	-
7.0	1.32	5.97